

Intrinsic Risk Factors for Inversion Sprains:

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Intrinsic risk factors are related to the individual characteristics of a person.

Extrinsic risk factors relate to environmental variables such as level of play, exercise load, amount and standard of training, position played, equipment, playing field, rules, foul play etc.

Even though ankle sprains are so common, the cause of this injury is still unknown. Beynnon et al revealed that studies on extrinsic risk factors for ankle sprains arrived at some agreements, but at this point there is little consensus with regard to the intrinsic risk factors. This is most likely due to the fact that there are very few well-designed prospective studies.

Willems et al. Found that most ankle sprains occur in the first 400 hrs of sports participation.

Anthropometrical Characteristics:

Willems et al found no significant relationship between any of these characteristics. Although a larger mass moment of inertia has been considered a risk factor in recruits, most other studies have reported no effect of height or mass on the incidence of ankle sprains.

Physical Conditioning

The results from Willems et al conflict other studies that say poor physical conditioning enhances the risk for injury. Their study displayed decreased cardio respiratory endurance and slower running speeds in men who suffered ankle sprains. This could cause early fatigue, leading to less accurate protective mechanism of muscles and ligaments.

Balance

The flamingo test has displayed a significant association with ankle sprains.

Joint Position Sense

The results from Willems et al showed no relationship between the two. This contrasts previous research; therefore more research in this area is needed.

Strength Deficits

Willems et al found decreased dorsi flexion strength at 30 degrees / second. Payne et al and Beynnon et al could not associate muscle strength and ankle sprain. Baumhauer et al found plantar flexion strength to be greater than dorsi flexion strength.

Reaction time

Willems et al found a significant relationship between a faster reaction time of the Tibialis Anterior and the Gastrocnemius and the occurrence of ankle sprains. This might suggest a protective effect. Control groups shoe Peronei to provide the first stabilization.

1st MTP

Williams et al found a higher extension ROM at the 1st MTP. This may cause a diminished support at this joint during gait. Making the kinematics in the unrolling foot, we suggest that foot roll-off may occur more laterally in subjects who sustain ankle sprains.

Dorsiflexion ROM

Decreased dorsi flexion is a predictive factor. This is found more often with the knee straight, which may suggest the posterior compartment (Gastroc) is tight. This may place the foot in a position of greater plantar flexion when landing from a height.