Injury Causation And Prevention: The Recursive Model And The Role Of Biofeedback

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Numerous injuries happen every year caused by sporting activities and such injuries resulted in decreased physical activity and lost of school or work time. Prevention and intervention have become a focal point for researchers to explore. Several models for the investigation of injury and prevention in sports have been proposed and investigated. The most recent framework for injury causation and prevention in sport was proposed by Meeuwisse (2007) which was an extended and revised version of his earlier work of the multi-factorial model (Meeuwisse, 1994). A 'recursive' nature of athletic exposure was the new element introduced in his newest model where this element arises following exposure to a mechanism of injury and manifests itself through a modification of the intrinsic and/or extrinsic risk factors. The model illustrated that a susceptible athlete may be exposed to an event or injury mechanisms with two different outcomes. In one pathway, the inciting event lead to injury leading to either return to competition or a period of absence from competition. In the other pathway, the same or similar event is experienced without any injury. In both of these situations, the recursive element models the consequences of repeated sports exposures including matches and training as well as incomplete recovery from a previous injury or exposure to an injury mechanism. The recursive model also permits other factors, including behavioural and biofeedback, to be altered and manifest in changes to intrinsic and extrinsic risk factors. Biofeedback is a process that enables an athlete to learn how to alter their physiological activities for the purpose of injury prevention. The effectiveness and the practicality of applying the recursive model of injury causation framework and the role of biofeedback in the model could help determine appropriate methods in sport injury research, offering insights into the risk factors and injury causation and the potential of injury prevention and management.