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Can tendinopathy be prevented? Where are we & where do we need to go?

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It has been over 25 years since the 4-step injury prevention research model was introduced by van Mechelen et al., to combat the adverse effects of injuries resulting from sports participation. This fundamental model proposes four steps: 1. Identify the extent of the injury problem (incidence/severity), 2. Identify their risk factors and mechanisms, 3. Introduce preventative measures, and 4. Testing their effectiveness. Since then, substantial progress has been made for acute, traumatic injuries, while research on overuse problems like tendinopathy has been lagging.

The two main reasons for this are: 1. That injury surveillance methods mainly have been based a narrow injury definition, requiring time loss from sport, and 2. That only crude measures (e.g. hours of training) have been available to examine the effects of training and competition load.

Development of new methodology based on the Oslo Sports Trauma Research Center Questionnaire on Health Problems (OSTRC-H) has facilitated the capture of all complaints, including overuse complaints that result in frequent exacerbations and are managed with adjustments to training intensity, the typical cause for tendinopathies. Also, new technology like GPS-based systems and purpose-built accelerometers allow for granular capture of load data, e.g. the number and intensity of jumps, runs, accelerations and changes of direction.

Recent prospective studies using this methodology have documented that in several sports, previously thought to represent a low risk of injury, as many as 30-50% of all athletes report an injury problem at any given time. Importantly, depending on the sport, the burden of overuse problems like tendinopathy frequently far exceeds that of acute, traumatic injuries or that of illness. In this talk, prof Bahr will share data from prospective studies on diverse athlete populations, from youth athletes to the absolute elite, including unpublished data based on >35 000 weekly reports from Norwegian Olympic and Paralympic athletes.

There is ample clinical experience to document that specific loading patterns lead to an increased risk for specific injuries, as evidenced by the diagnostic labels established for some of these, such as jumper's knee, golf elbow, tennis elbow and runner's knee. What is not clear is why some runners develop runner's knee and some volleyball players jumper's knee - while others do not.

To better understand what causes tendinopathy (and inform prevention programs), there is a need for large, prospective studies capturing both relevant load and complete injury data, as well as athlete characteristics. As an example, Prof Bahr will present results from one such study. The aim of his lecture is to inspire future research to untangle the question: Who gets tendinopathy - and how and why? This is needed to advance to stages 3 and 4 in the van Mechelen model.

Topic: Sports Medicine and Orthopedics

Presentation Invited

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