



## Editorial

## Two "hot topics" addressed and one article about "unknown territory"

For our October issue, it is my pleasure to highlight three papers from Denmark, Australia and Canada. Two of them address research questions from heavily debated areas (use of non-steroidal antiinflammatory drugs, NSAIDs, by athletes<sup>4</sup>; management of head injuries<sup>5</sup>) whereas the other one is from an underresearched field (sport and gastrointestinal problems<sup>1</sup>).

Too frequent use of pain killers (most of them NSAIDs) by athletes is definitely among the concerns of high priority for sports physicians. Whereas NSAIDs can be a valuable part of a therapy plan, their unrestricted availability - without a prescription from a medical doctor - in most countries gives athletes easy access to potent drugs with considerable side effects. The more worrisome ones include gastric problems in the short term and renal damage after long-term use. Changes in renal blood flow and clearance during heavy exercise might contribute to the latter<sup>3</sup> in particular when NSAIDs are taken shortly before training or competition. However, it cannot be expected that athletes are deterred from their use by theoretical knowledge of potential side effects alone. As long as there is no legal restriction of their use at the horizon, the only chance for action (besides very selective use by physicians) seems to be campaigns of different kind.

Publications like the one from Pedersen et al.<sup>4</sup> in this issue support such campaigns by delivering heavily needed data: estimations of prevalence of NSAID use (point prevalence between 23 and 73%; in-season prevalence between 88 and 95%), frequency of experienced side effects (3-19%) and reasons for intake. The population for their analysis was chosen well (between 15 and 24 years of age) representing a target group for such campaigns. To include a sufficient number of athletes from different sociocultural backgrounds and to formulate solid conclusions, the method of a systematic review with meta-analytical regression appears very justified here. However, even a systematic review is never better than the average quality of the included studies which was assessed by the authors as relatively low for cross-sectional and somewhat better for cohort studies. This was illustrated by high heterogeneity of their results. With growing public attention for the topic, another confounder may have to be taken into account for future studies (and may already have led to some underestimation here): some stigma assigned to NSAID-consuming athletes which can lead to reluctance to report frankly. Therefore, it is of importance to keep a neutral attitude when talking and publishing in lay media about NSAID intake and avoid questionable accusations like proximity to doping or cheating. When we have to assume that revealing NSAID use is perceived as stigmatized by athletes, only special survey methods (like the randomized response technique) remain valid for the above mentioned outcomes.

The awareness for head injuries and their possible long-term consequences has risen over the last years and frequently been addressed in JSAMS articles. Part of these concerns is an appropriate management of acute head injuries which most of the times has to be facilitated within short periods of time by team physicians. The fluctuating nature of concussion symptoms - the most frequent diagnosis - further complicates the task. This has led to the use of video surveillance as a tool to support team

physicians - either by availability of immediate footage on the bench or by means of "spotters" among the spectators who try to identify signs of concussion which slipped through the awareness of the team doctors. Let aside the question if time has really come for a consensus about this approach<sup>2</sup>, several articles illustrate the potential value of video analysis for concussion diagnosis. In the current issue, West et al.<sup>5</sup> have utilized this technique to examine all injuries and suspected concussions in 48 women's rugby matches. However, their reported numbers (4.7 suspected injuries per game or 117.5 per 1,000 playing hours; 1.2 suspected concussions per game or 30.8 per 1,000 playing hours) also illustrate that video surveillance cannot serve as a stand-alone diagnostic method. Availability of better-quality footage than the one-angle material which has been used by the authors in most matches may improve diagnostic quality but can hardly make up for the clinical information being collected by the team physician.

Given the frequent reporting of gastrointestinal (GI) problems by athletes in outpatient settings, it is not really known why stomach and gut have so seldomly been subject of sports medical/sport science research. Costa et al.<sup>1</sup> now remedied this shortcoming by letting 28 athletes cycle and run for 2 hours in a cross-over setting and under comparable environmental conditions. Although several blood parameters did not draw a clear picture of the underlying mechanisms, it was observed that the running modality led to more frequent GI problems. This is not unexpected because the repeated impact from running might represent a causative stimulus. It is noteworthy that 2 hours of running represent a much higher "dose" than 2 hours of cycling when compared to typical training sessions. There are obviously reasons why running training sessions usually remain shorter than those of cyclists among them the higher load on the skeletal-muscular system and possibly on the GI tract... The value of this study does probably not come from surprising results but from a well-designed cross-over approach that has addressed a practically relevant GI topic. It may serve as a starting point for more research into this "unknown territory".

## References

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