

Challenges in Athletics injury and illness prevention: implementing prospective studies by standardised surveillance

Pascal Edouard,^{1,2,3} Pedro Branco,^{4,5} Juan-Manuel Alonso^{5,6}

Athletes' health protection through prevention research is an important goal of the International Olympic Committee (IOC)¹ and is a task taken seriously by several major international sports federations including the International Association of Athletics Federations (IAAF)²⁻⁵ and the European Athletics (EAA).^{6,7} To this end, surveillance studies have been conducted at 13 international Athletics championships in recent years,²⁻⁷ using standardised methods developed by the IOC¹ and IAAF.^{2,3} Thus, important data on injury and illness incidences and characteristics in elite athletes during international Athletics competition have been reported and, as demonstrated in the paper by Feddermann *et al*,⁵ successfully monitored over time.

However, the nature of Athletics requires that a vast majority of athletes' time is spent preparing to compete rather than actually competing. Consequently, injury and illness risk is expected to be higher during training periods than during competition periods only. Our knowledge on their risk of injury and illness during out-of-competition periods is far more limited. A few studies reported prospective injury data during Athletics seasons,⁸⁻¹¹ most of those are older than 15 years^{8,9} and did not report data on illness risk. These studies differ in design and there is a wide variation in the surveillance methods used, including injury definitions and classifications, data collection methods and populations of athletes studied. Therefore, interpretation and comparison of those

data are difficult. This highlights the fact that, as in other sports, there is a great need for standardised surveillance methodology and prospective whole-season studies in Athletics.

Conducting whole-season surveillance studies in Athletics is particularly challenging, largely because it is an individual sport comprising many different disciplines. Consistent monitoring and medical follow-up are, therefore, more difficult to achieve than in team sports like football. Taking these constraints into account, Jacobsson *et al*¹² recently created a protocol for prospective large-scale epidemiological studies of individual athletes, and demonstrated its feasibility by implementing it in top-elite Swedish Athletics athletes.¹¹

Therefore, the challenge for Athletics physicians is to perform a consensual standardised method on injury and illness definitions as well as data collection procedures to be used in large-scale epidemiological studies in individual sports. Thus, Timpka *et al*¹³ attempted to build a consensus statement for Athletics epidemiological studies. This article provides recommendations on injury and illness definitions, how to record its characteristics, what athlete baseline information to record and how to calculate outcome measures, as well as discussing the challenging issue of how to record overuse injury.¹³ It is our hope that these recommendations will lead to a greater standardisation of methods and enable high-quality whole-season surveillance studies in Athletics.

However, there are significant challenges that must be considered and overcome regarding the feasibility of implementing the consensus statement's recommendations for prospective whole-season cohort studies. The first challenge is that the training structure in Athletics could lead to difficulties in data collection. Athletics clubs are seldom professional and rarely employ a single physician and/or medical team to follow all their athletes. Athletes may live far from their club, may train individually or in groups

not related to their club, or may have their own medical structure. Second, there are substantial challenges in athlete's culture as, for example, a tendency to medical nomadism (eg, entrusting different medical and paramedical providers), or a lack of concern by their medical follow-up. Finally, the medical organisation around athletes is not well structured to systematically collect health data. Many National Athletics Federations perform administrative and legal follow-up of athletes and do not provide centralised medical/health services that permanently monitor athletes. Most of the times, national medical teams provide only healthcare to athletes in training camps and during domestic or international competitions.

In practice, it may be necessary to use multiple epidemiological methods to record data during the whole Athletics season; for example, prospective surveillance by medical teams, direct collection of health data from athletes (by telephone, email, SMS text messages, smart phone applications or web-based system), retrospective athlete interview and media monitoring.^{4,12} For this, it is important that athletes, coaches and medical teams use the same definitions of injury or illness as per the consensus recommendations.¹³

In conclusion, we believe that the consensus statement by Timpka *et al*¹³ is a key step towards successful illness and injury prevention in Athletics. It provides the frame for implementing whole-season prospective studies, the first critical step in prevention research, which should then allow Athletics authorities to implement prevention strategies and interventions for the athletes' health protection.

Contributors PE made substantial contributions to conception, drafting the article and revising it critically for important intellectual content, and final approval of the version to be published. PB and J-MA made substantial contributions to conception, revising it critically for important intellectual content and final approval of the version to be published.

Competing interests None.

Provenance and peer review Not commissioned; externally peer reviewed.



To cite Edouard P, Branco P, Alonso J-M. *Br J Sports Med* 2014;**48**:481–482.

Accepted 25 January 2014

Br J Sports Med 2014;**48**:481–482.
doi:10.1136/bjsports-2013-093093

¹Department of Clinical and Exercise Physiology, Sports Medicine Unity, Faculty of Medicine, University Hospital of Saint-Etienne, Saint-Etienne, France; ²Laboratory of Exercise Physiology (LPE EA 4338), University of Lyon, Saint Etienne, France; ³Medical Commission, French Athletics Federation (FFA), Paris, France; ⁴European Athletics Medical & Anti Doping Commission, European Athletics Association (EAA), Lausanne, Switzerland; ⁵International Association of Athletics Federations (IAAF), Monaco; ⁶Aspetar, Qatar Orthopedics and Sports Medicine Hospital, Doha, Qatar

Correspondence to Dr Pascal Edouard, Department of Clinical and Exercise Physiology, Sports Medicine Unity, Bellevue Hospital, University Hospital of Saint-Etienne, Saint-Etienne 42 055, Cedex 2, France; Pascal.Edouard42@gmail.com.

REFERENCES

- 1 Junge A, Engebretsen L, Alonso JM, *et al.* Injury surveillance in multi-sport events: the International Olympic Committee approach. *Br J Sports Med* 2008;42:413–21.
- 2 Alonso JM, Junge A, Renstrom P, *et al.* Sports injuries surveillance during the 2007 IAAF World Athletics Championships. *Clin J Sport Med* 2009;19: 26–32.
- 3 Alonso JM, Tscholl PM, Engebretsen L, *et al.* Occurrence of injuries and illnesses during the 2009 IAAF World Athletics Championships. *Br J Sports Med* 2010;44:1100–5.
- 4 Alonso JM, Edouard P, Fischetto G, *et al.* Determination of future prevention strategies in elite track and field: analysis of Daegu 2011 IAAF Championships injuries and illnesses surveillance. *Br J Sports Med* 2012;46:505–14.
- 5 Feddermann-Demont N, Junge A, Edouard P, *et al.* Injuries in 13 international Athletics championships between 2007–2012. *Br J Sports Med* 2014;48: 513–22.
- 6 Edouard P, Depiesse F, Hertert P, *et al.* Injuries and illnesses during the 2011 Paris European Athletics Indoor Championships. *Scand J Med Sci Sports* 2013;23:e213–18.
- 7 Edouard P, Depiesse F, Branco P, *et al.* Analyses of Helsinki 2012 European Athletics Championships injury and illness surveillance to discuss elite athletes risk factors. *Clin J Sport Med* 2013. [Epub ahead of print].
- 8 D'Souza D. Track and field athletics injuries—a one-year survey. *Br J Sports Med* 1994;28: 197–202.
- 9 Bennell KL, Crossley K. Musculoskeletal injuries in track and field: incidence, distribution and risk factors. *Aust J Sci Med Sport* 1996;28: 69–75.
- 10 Rebella GS, Edwards JO, Greene JJ, *et al.* A prospective study of injury patterns in high school pole vaulters. *Am J Sports Med* 2008;36:913–20.
- 11 Jacobsson J, Timpka T, Kowalski J, *et al.* Injury patterns in Swedish elite athletics: annual incidence, injury types and risk factors. *Br J Sports Med* 2013;47:941–52.
- 12 Jacobsson J, Timpka T, Ekberg J, *et al.* Design of a protocol for large-scale epidemiological studies in individual sports: the Swedish Athletics injury study. *Br J Sports Med* 2010;44:1106–11.
- 13 Timpka T, Alonso J-M, Jacobsson J, *et al.* Injury and illness definitions and data collection procedures for use in epidemiological studies in Athletics (track and field): Consensus statement. *Br J Sports Med* 2014; 48:483–90.



Challenges in Athletics injury and illness prevention: implementing prospective studies by standardised surveillance

Pascal Edouard, Pedro Branco and Juan-Manuel Alonso

Br J Sports Med 2014 48: 481-482

doi: 10.1136/bjsports-2013-093093

Updated information and services can be found at:
<http://bjsm.bmj.com/content/48/7/481.full.html>

	<i>These include:</i>
References	This article cites 12 articles, 9 of which can be accessed free at: http://bjsm.bmj.com/content/48/7/481.full.html#ref-list-1
Email alerting service	Receive free email alerts when new articles cite this article. Sign up in the box at the top right corner of the online article.

Notes

To request permissions go to:
<http://group.bmj.com/group/rights-licensing/permissions>

To order reprints go to:
<http://journals.bmj.com/cgi/reprintform>

To subscribe to BMJ go to:
<http://group.bmj.com/subscribe/>