

Editorial

**Methods for recording and reporting of epidemiological data on injury and illness in tennis: ReFORM synthesis of the International Olympic Committee consensus statement**

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## **Introduction**

Following the International Olympic Committee's (IOC) consensus statement on the methods for collecting and reporting epidemiological data on injury and illness in sports,<sup>1 2</sup> the International Tennis Federation's Sports Science Committee, in collaboration with selected external experts, developed a tennis-specific extension.<sup>3</sup> This initiative aimed to standardise health surveillance for non-disabled and wheelchair tennis players and provide discipline-specific recommendations regarding injury and illness classification, mechanisms, onset modes, athlete exposure, risk reporting and data collection methods. The tennis-specific extension and this summary aim to present the elements specific to tennis that differentiate or add to the original IOC consensus for recording and reporting epidemiological data on injury and illness in sports (figure 1).<sup>1 2</sup>

## **Definition of health problems**

The IOC defined a health problem as 'any condition that affects an athlete's normal state of full health, irrespective of its consequences on the athlete's sports participation or performance, or whether the athlete sought medical attention'. This definition fits well in tennis, where health problems without an impact on participation dominate the spectrum of health problems.

## **Injury mechanisms and onset modes**

It is essential to differentiate injury mechanisms and onset modes by distinguishing injuries that occur suddenly from those resulting from repeated stresses on specific body parts, according to the following categories: acute mechanism with sudden onset, repetitive mechanism with sudden onset or repetitive mechanism with gradual onset.

## **Severity of health problems**

Assessing the severity of health problems in tennis is challenging, and using the time-loss definition is difficult to operationalise in tennis tournaments. Thus, it is recommended to ensure the accuracy of collected data by verifying the data with the player or their physician. Expressing the severity of the problem through the nature of the injury, the Oslo Sports Trauma Research Centre severity score, a widely accepted and validated tool in sports medicine, or the impact of the injury (eg, withdrawal from tennis) is also advised.

## **Athlete's exposure**

Registering exposure in hours separately during tennis practice (skills and drills) and strength and conditioning is recommended. For wheelchair tennis players, further subdivisions of strength and conditioning are suggested. The use of perceived exertion rate per session as an indicator of internal load, along with objective measures such as the number of matches played, sets, games or points, is recommended. A comprehensive evaluation of risk exposure during tournaments involves reporting the number of injuries per 1000 hours and 1000 matches played.

# Methods for Recording and Reporting Injury and Illness in Tennis

## ReFORM Consensus Statement



Reference: Verhagen et al. BJSM 2021

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### 1 Defining and classifying health problems

Any condition that affects an athlete's normal state of full health, irrespective of its consequences on the athlete's sports participation or performance, or whether the athlete sought medical attention.

### 2 Classify diagnostics of injuries and illnesses

Illness/injury, onset mode, mechanism, episodes, location, tissue, pathology or etiology. Common types of shoulder injuries and their diagnostics have been added.

### 3 Characterise the severity of health problems

The duration of periods of unavailability should be systematically recorded.



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### 5 Expressing risk

For tournaments, the number of injuries per 1,000 hours and per 1,000 matches played should be reported.



### 4 Capture and report player exposure

- Exposure in hours should be registered separately for tennis practice, matches, and strength and conditioning.
- Internal load can be monitored using the s-RPE method.
- Match exposure should be documented in terms of the number of matches, sets, games and/or points.
- Additional measures recommended include tracking the distance covered, changes in direction, number of accelerations, and the number and speed of strokes.



### 6 Express the burden of health problems

Frequency \* Consequences



### 7 Study population characteristics

- Age & Gender
- Level of Competition
- Type of Disability (e.g., wheelchair)



### 8 Adopt the right method for data collection



Specific tools have been designed for collecting basic information, recording injuries and illnesses and quantifying exposure during training and matches.

**Figure 1.** Infographic of the ReFORM synthesis of the International Olympic Committee Consensus Statement on methods for recording and reporting epidemiological data on injury and illness in tennis.

## **Study population characteristics**

Recording and reporting epidemiological data should consider the player's level (professional, elite junior, community), medical resources in the country, world ranking (if available) and additional demographic information. Data on general characteristics should be collected at the beginning of monitoring and annually.

## **Data collection methods**

Specific models for tennis and wheelchair tennis have been developed for data collection on basic information, injury and illness reporting and match and training exposure. These models include detailed forms and guidelines for data collection, as well as instructions on interpreting and using the collected data for epidemiological analysis and health surveillance.

## **Conclusion**

These recommendations aim to provide a robust framework for monitoring the health of tennis players, contributing to their well-being and performance and implementing targeted preventive strategies to reduce the risk of injuries and illnesses in tennis.

## **Patient consent for publication**

Not applicable.

## **Ethics approval**

Not applicable.

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