

How to correctly interpret Player Load?

Player Load (PL) – The sum of the root mean square of changes in acceleration and deceleration per second.

The Player Load is the most important parameter defining the player's external load. **The calculations of the Player Load** take into account forward acceleration, sideways acceleration, and upwards acceleration. In other words, it is an indicator of acceleration changes divided by a scaling factor.

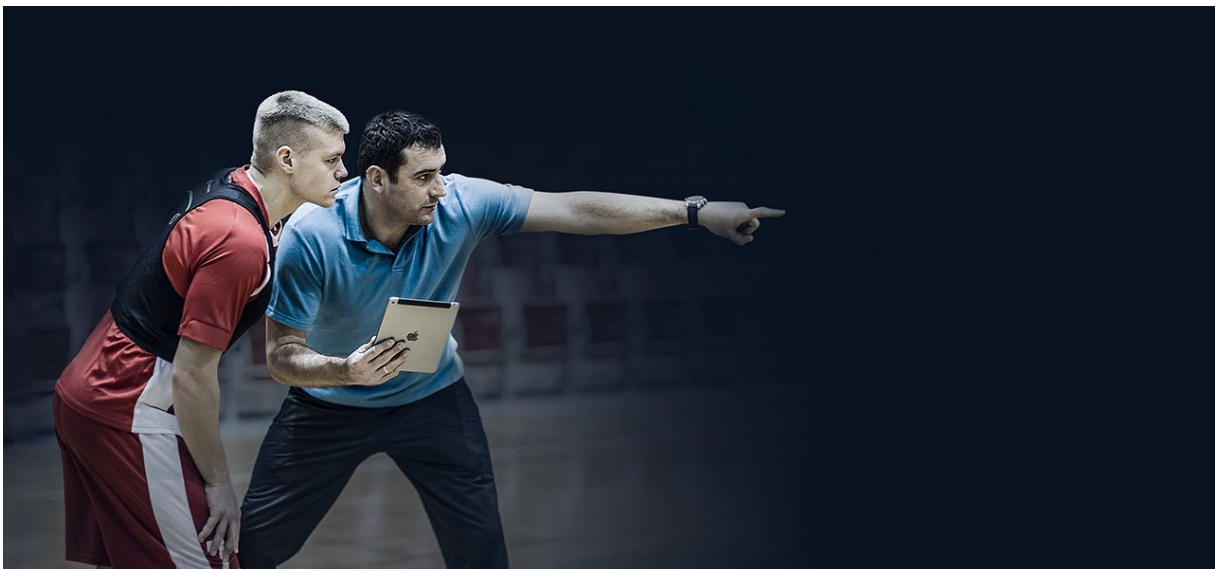
$$\text{Player Load (acc)}_{t=n} = \sum_{t=0}^{t=n} \sqrt{((fwd_{t=i+1} - fwd_{t=i})^2 + (side_{t=i+1} - side_{t=i})^2 + (up_{t=i+1} - up_{t=i})^2)}$$

For t = 0, 0.01, 0.02, 0.03, ..., n

Where:

fwd: forward acceleration
side: sideways acceleration
up: upwards acceleration
t: time

PL is **very often used in team sports** such as soccer, basketball, rugby, American football, where players are exposed to frequent changes of direction and physical contact with their opponents. It is also used to determine the amount and intensity of training, and also helps in the model for preventing injuries.



The interpretation of **Player Load values** requires an individual approach to each player. By creating base points, gathering information during each training and correctly selecting training loads, the coach and the athlete learn about the behaviour of the body during specific PL values. In team sports, the results of PL are divided into appropriate groups (e.g. low, moderate, high loads) and compared between individual athletes playing in the same position. Thanks to the proper use of PL, you can easily notice when fatigue appears in a given player and how much he/she is exposed to an injury in that moment.

