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Researchers develop a device for running shoes that prevents injuries

31 October 2014



RUNSAFER system

El Institute of Biomechanics of Valencia (IBV) and the Spanish shoe company KELME have designed a prototype running shoe with an integrated device that improves training management and prevents injuries.

The device consists of a microelectronic measuring system capable of gathering biomechanical parameters that characterise the runner's technique during a race. This information is wirelessly transmitted to the runner's mobile phone and a mobile phone application provides real-time feedback, including level of performance and suggestions to change the running pattern or to stop running in case of detecting a high risk of injury.

The mobile app also has all the additional information provided by other commercial devices commonly used by runners such as heart rate monitor or GPS location.

In addition, the athlete will be able to transfer the generated running information to a web portal. This portal will generate personalised training plans, allow follow up of improvements and provide recommendations in order to prevent injuries and improve performance. Some of the extra contents will include recommendations on warming-up and cooling down, tips on how to improve the running technique and nutrition guidelines.



RUNSAFER system

Moreover, this web will include web 2.0. functionalities allowing the user to be in contact with other runners worldwide and built and share contents (running routes, footwear info, etc.)

The main novelty of this new system compared to current running measuring systems for training is that it will be the first device to characterise the running technique from biomechanical variables and, together with information from the pulsometer, detect fatigue and give real-time recommendations.

RUNSAFER Project was funded by the Research for SMEs Call of the VII Framework Programme of the European Commission. The consortium also included the technology centres IPMS-Fraunhofer (GE) and EII (EST), as well as the firms NUROMEDIA (GE) and DUKOSI (UK).

80 million runners in Europe

The actual number of runners in Europe exceeds 80 million; approximately 36% of the European population between 15 and 65 year-old.

Running has become one of the most popular sports in recent years. However, this sport has associated injuries that force the runner to stop and lose the fitness level achieved until recovery or even in some cases, to give up all together.

Incidence of running injuries is high, since 38% of European runners suffer or have suffered a running injury and between 37 and 56% of runners become injured at least once each year.

RUNSAFER system is aimed at all European runners in general and, in particular, at those who are suffering or have suffered running injuries in the last year, which means a potential market of over 37 million runners.

Provided by Asociacion RUVID

APA citation: Researchers develop a device for running shoes that prevents injuries (2014, October 31) retrieved 4 December 2014 from http://phys.org/news/2014-10-device-injuries.html

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