



Innovation at your feet with intelligent insoles able to detect and prevent injuries

LOCATION: Granada

DURATION: 2'00"

SUMMARY: Researchers of the University of Granada have developed a prototype of insoles with sensors that measure and simultaneously analyse pressure, acceleration and position parameters. This way they obtain information that can be useful in the prevention of injuries.

VTR:

This is the prototype of an intelligent insole which is being developed by researchers of the University of Granada. These insoles are equipped with sensors that analyse the movement of the foot to prevent injuries in the knee or in the back caused by a poor posture when putting the sole of the foot on the ground.

Fernando Martínez
Student University of Granada

"They permit detecting or preventing injuries monitoring march or race."

These insoles monitor pressure, acceleration and position parameters in real time and simultaneously, something that other systems didn't do.

Sofía Martínez
Student University of Granada

"The system is compound by the processing unit and two sensorized insoles. The insoles contain four pressure sensors."

Data are stored in a card or sent wirelessly to a computer. The next step is designing a mobile app to receive this data and putting all the devices into a sheet that will be inserted at the bottom of the insole. For the moment, this system is being tested at the Biomechanics Laboratory of the University of Granada's Sport and Health Institute.

Sofía Martínez
Student University of Granada

"Using sensorized insoles, the system registers pressure, speed and movement direction data, transmitting them to the processing unit."

The applications of these insoles go from the study of weight distribution in the sole of the feet of pregnant women, to its influence in back pain or to the elaboration of a set of exercises to determine the predisposition of athletes in the practice of a specific sport.

Fernando Martínez
Student University of Granada

"We also want to apply it to diseases such as Parkinson's, to the study of the march or to people who have balance issues."

It is aimed at athletes who want to improve their performance by correcting the position of their feet, doctors or physiotherapists to detect bad habits when walking or running, and even at citizens worried about their health and welfare.

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