

Wearable tech may aid sporting injury treatment

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Credit: AI-generated image ([disclaimer](#))

Wearable tracking devices are set to become even greater sports analysis tools for local athletes thanks to an algorithm developed by WA and Victorian sports scientists and mathematicians.

The researchers recently found accelerometer and gyroscope data from

simple wearable tracking devices—in this case a Catapult S4—can accurately classify an activity athletes are doing using a certain algorithm.

This finding could eventually help scientists analyse athlete's movements in real time and gain a better understanding of the forces and injuries they experience.

It isn't just about detecting whether someone has been tackled, but understanding the magnitude of the tackle, Victoria University sports scientist Dr Sam Robertson says.

Dr Robertson who initiated the collaboration with Curtin and Deakin Universities, says the information may lead to better injury treatment and prevention.

"You look at a sport like rugby, forward type players are tackling and being tackled multiple times in a training session or a match," he says.

"However it may not necessarily be the number of tackles that is doing the damage—it might be the intensity or magnitude of the tackle.

"With respect to injury, if we understand the types of movements players are undertaking at training then we can better understand how we expect them to respond to these loads."

The algorithm's ability to automatically classify training activities does away with the need to have scientists manually tracking athletes.

"By using automated classification you take the burden off the practitioner being required to sit there and manually count the number of times a player runs, sprints or is tackled," he says.

Dr Robertson says the findings point to a logical next step in improving the information gained from wearable tracking technology.

"In high-level sport organisations have been obtaining a lot of data from wearable technologies over the last five or ten years," he says.

"It provides a real rich source of data potentially to understand the workloads of what athletes are experiencing.

"But up until recently most of that data has been used at a basic level as far as summary of how fast a player has run and the distance they travel.

"We wanted to take that to another level and use the data to work out things like what types of movements people are doing rather than just how far they're running."

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Provided by Science Network WA

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