

3D technology to study the effects of the weight students carry in their school bags

LOCATION: Granada

DURATION: 1'29"

SUMMARY: Researchers from the Institute for Sport and Health (IMUDS) in Granada study how the weight that students carry in their school bags affects their locomotion and back using 3D animation technology. The first results they have obtained indicate that there is a load excess in school bags and that wheeled bags are less harming students.

VTR:

Researchers from the Institute for Sport and Health in Granada study how the weight that students carry in their school bags affects their locomotion and back. The first data indicate that the weight they carry represents an average of 15,4% of their body weight, despite it is recommended to be between 10 and 15.

EVA ORANTES
Researcher at the iMUDS

"In the tests they undergo, children indicate that it hurts them in their shoulders and both in the thoracic and lumbar spine."

60% of the evaluated students carry a school bag which is heavier than recommended.

JOSÉ MARÍA HEREDIA
Researcher at the iMUDS

"We attach markers to their skin which are tracked by cameras to obtain those three-dimensional movements. We use them to calculate angles, the force applied to the soil..."

Over half the children prefer to use a wheeled bag to carry their school materials.

JOSÉ MARÍA HEREDIA
Researcher at the iMUDS

"We have observed that wheels make locomotion much similar to their natural locomotion, but the problem is that there's a trunk twist and we want to study how this affects to the activation of the muscles of that area."

By now, 50% of the children observed are affected by frequent or very frequent back pain. They aim to analyse the movements of 500 students.

AMBIENCE

"Here are some recommendations about how their school bag must be."

TESTIMONY

"The two of them use a school bag which they carry on their back, on their shoulders. It helps children to control the weight they carry."

The final goal is to make a best practises guide as an excessive load could cause joint overuse, muscular contractions and bad posture.

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