

Plastic and 3D impressions as an alternative to casts to treat fractures

LOCATION: Seville

DURATION: 1'33"

SUMMARY: It's a creation from engineers at the Universities of Seville and Huelva. Using a low cost plastic material called PLA, they have built with 3D impressions the prototype of a system which can treat bone fractures in the limbs. It's an alternative to the traditional casts. Facing this, Skin 3D is waterproof, which is useful in bathrooms, is light and can be personalised.

VTR:

This engineer is testing the resistive capacity of a very common and cheap plastic material called PLA.

JUAN MORA
University of Seville Engineer

"One of the most common they use in the 3D impression, and it also has good properties."

Ideal properties for being the main material of this apparatus. A system generated by 3D impressions which treats bone fractures in the limbs. It was developed by biomechanics specialists from the Universities of Seville and Huelva. Its advantages, they say, is that it can replace the traditional casts.

ESTHER REINA
University of Seville Engineer
JUAN MORA
University of Seville Engineer

"The first and most obvious is its lightness. When a patient puts on the orthosis, the first thing they notice is that it's so much lighter. And come summer time, beach, swimming pool, it's water resistant..."

"The fact that it's water resistant makes it washable, so more cleaning is more hygienic."

ESTHER REINA
University of Seville Engineer

"You could make the orthosis with motifs, or the patient's favourite colours."

From two photos of the fractures, they create a 3D impression of the pieces, which they then fit to patient, whilst applying heat. That's how they mould it. The big question now is, is it as effective as the casts?

JUAN MORA
University of Seville Engineer
ESTHER REINA
University of Seville Engineer

"What must be guaranteed is the material to be as effective and have at least as much stiffness as the plaster. And the mechanical tests we're doing with PLA tell us that it is."

"We need funding to keep developing our prototypes and that is our short term aim."

Meanwhile, they continue with their experiments. And with help from trauma specialists from Virgen del Rocio Hospital, they're putting the finishing touches to the product.