

Stem cells ink for a 3D printer that will permit repairing the human body

LOCATION: Granada

DURATION: 1'25'

SUMMARY: A 3D printer has been adapted to print with stem cells combined with a biodegradable material. The result is a cylinder that could mean a definitive cure for arthrosis. The structure is implanted in the empty spaces of the cartilage caused by this disease, permitting the joint regenerating completely. This investigation is part of the Biomer Condistrem 3D project of the University of Granada that counts on the collaboration of the University of Jaén.

VTR:

Instead of ink, the cartridges of this 3D printer contain stem cells. It prints what could be the definitive cure for arthrosis, pieces of human tissue that will turn into cartilage to regenerate the parts of joints worn by this painful disease.

EDUARDO GALUÉ
Researcher 'Biocom 3D
Project'

"It is a biodegradable cylindrical structure combined with the stem cells of the patient."

JUAN ANTONIO MARCHAL
Coordinator 'Biocom 3D
Project'

"A structure adapted to the lesion of the patient."

The printer builds a small block of stem cells in the inside of a cylinder made out of a biodegradable material that will be progressively eliminated by the body. That's how the main problem presented in other therapies, the dispersion of the cells, is solved. The cylinder helps them stick to the area that needs the new cartilage.

JUAN ANTONIO MARCHAL
Coordinator 'Biocom 3D
Project'

"Cells need a three dimensional mesh to be able to regenerate the whole area."

This investigation is part of the Biomer Condistrem 3D project of the University of Granada and counts on the collaboration of the University of Jaén. In three months they will start testing this treatment in sheep, checking other advantages of this procedure...

JUAN ANTONIO MARCHAL
Coordinator 'Biocom 3D
Project'

"It could be outpatient surgery."

What permits a very fast recovery of the patient and also...

JUAN ANTONIO MARCHAL
Coordinator 'Biocom 3D
Project'

"The sanitary cost would be reduced."

A promising future for the 5% of Spanish population, most of them elder people affected by arthrosis.