

# Stems cells might help repair joints

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U.S. scientists have built a unique weaving machine that creates a three-dimensional fabric "scaffold" to repair joints with a patient's own stem cells.

"If further experiments are successful, the scaffold could be used in clinical trials within three or four years," said Franklin Moutos, a graduate student who designed and built the weaving machine at the Duke University Medical Center. "The first joints to be treated this way would likely be hips and shoulders, though the approach should work for cartilage damage in any joint."

In initial tests, the fabric scaffold had the same mechanical properties as native cartilage.

"By taking a synthetic material that already has the properties of cartilage and combining it with living cells, we can build a human tissue that can be integrated rapidly into the body, representing a new approach in the field of tissue engineering," Moutos said.

The researchers report the new technology in the February issue of the journal *Nature Materials*.

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