

Tissue engineered scaffolding allows reproduction of cartilage tissue

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A new study examines the use of tissue-engineered scaffolding made of cartilage cells, which have a limited ability to heal naturally, to replace defective cartilage tissue. Cartilage cells are extracted and seeded to the scaffold which is implanted into the body, where new cartilage tissue is grown along the structure. The study appears in the journal *Artificial Organs*.

The procedure was extremely successful in tested mice as the study found these scaffolds to be a far more effective means of regenerating cartilage than traditional therapy. The shrinkage of cartilage that occurs frequently in other tissue engineering methods, and often renders the replacement tissue wrongly-sized for implantation, did not occur in the study. The scaffolding allowed the newly grown cartilage to maintain its volume during cultivation and post-procedure.

"The cell-derived scaffold could provide a favorable environment for cartilage cells to maintain their characteristics while synthesizing cartilage in the scaffold structure in vivo," notes study author Dr. Byoung-Hyun Min. "Cell-derived scaffolding may hold great promise for the future. A variety of applications are possible for the engineering of cartilage tissue as the shape and porosity can be altered to suit the type of tissue required."

Source: Blackwell Publishing Ltd.

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