

# Study shows functional effects of human stem cell delivery to heart muscle after heart attack

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Credit: Mary Ann Liebert, Inc., publishers

Researchers delivered human stem cells seeded in biological sutures to the damaged heart muscles of rats following induced acute myocardial infarction and assessed the effects on cardiac function one week later. The differences in mechanical function at a local and global level when stem cell seeded sutures were used compared to sutures without stem cells are reported in an article in *BioResearch Open Access*, a peer-reviewed open access journal from Mary Ann Liebert, Inc., publishers. The article is available free on the *BioResearch Open Access* website.

The study entitled "Functional Effects of Delivering Human Mesenchymal Stem Cell Seeded Biological Sutures to an Infarcted Heart" is coauthored by Katrina Hansen, Glenn Gaudette and colleagues from Worcester Polytechnic Institute (Worcester, MA), Massachusetts General Hospital (Boston, MA), and University of Arkansas for Medical Sciences (Little Rock, AR). The researchers demonstrate changes in heart function that occur directly in the region where they delivered the stem cells. These regional functional changes were not evident with the use of non-cell seeded sutures. The authors describe how varying the concentration of [stem cells](#) used to seed the sutures and the timing of seeding affected that amount of cells seeded onto the sutures.

"This study addresses an important issue in cell therapeutics: how to deliver the cells to a specific target," says *BioResearch Open Access* Editor Jane Taylor, PhD, Edinburgh Medical School: Biomedical Sciences, University of Edinburgh, Scotland. "Although cardiac repair was the goal here, this work has potential applications for a whole range of other cell types and tissues."

**More information:** Katrina J. Hansen et al, Functional Effects of Delivering Human Mesenchymal Stem Cell-Seeded Biological Sutures to an Infarcted Heart, *BioResearch Open Access* (2016). [DOI:](#)

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