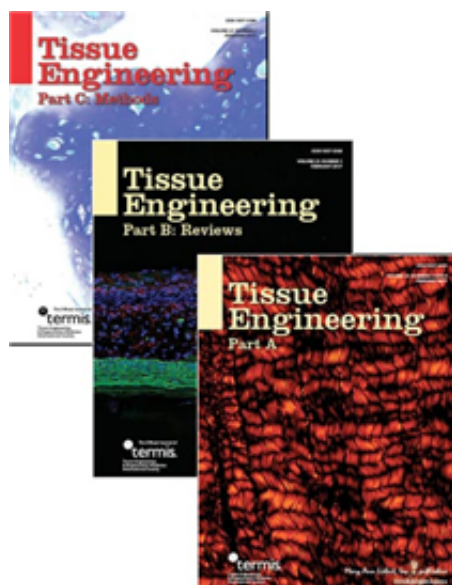


Spray painting biomaterials onto heart promotes cardiac repair after myocardial infarction

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Tissue Engineering brings together scientific and medical experts in the fields of biomedical engineering, material science, molecular and cellular biology, and genetic engineering. Credit: Mary Ann Liebert, Inc., publishers

Researchers have demonstrated the effectiveness of a minimally invasive method to form a regenerative cardiac patch that promotes repair of damaged cardiac tissue in a mouse model of a heart attack. Biomaterials sprayed onto the heart formed a platelet fibrin gel, called a cardiac patch, that helps the heart heal without the need for sutures or glue, as described in an article published in *Tissue Engineering, Part C*.

Junnan Tang, Adam Vandergriff, and coauthors from University of North Carolina at Chapel Hill and UNC Eshelman School of Pharmacy, North Carolina State University and NC State College of Veterinary Medicine (Raleigh), The First Affiliated Hospital of Zhengzhou University (China), and Soochow University (Suzhou, China) report on the materials used to form the platelet fibrin gel and the delivery method they used.

In the article entitled "A Regenerative Cardiac Patch Formed by Spray Painting of Biomaterials Onto the Heart," the researchers showed that the sprayed-on materials were non-toxic to the heart muscle, would adhere to the heart and degrade over time, and could release a variety of growth factors to promote cardiac repair.

"The [spray painting](#) method, as described in this manuscript, is an excellent example of how [tissue engineering](#) has evolved since the 1990s," says Methods Co-Editor-in-Chief John A. Jansen, DDS, PhD, Professor and Head, Department of Biomaterials, Radboud University Medical Center, The Netherlands. "The described delivery method is easy to apply in clinics and shows significant potential for patient treatment."

More information: Junnan Tang et al, A Regenerative Cardiac Patch Formed by Spray Painting of Biomaterials onto the Heart, *Tissue Engineering Part C: Methods* (2017). [DOI: 10.1089/ten.tec.2016.0492](https://doi.org/10.1089/ten.tec.2016.0492)

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