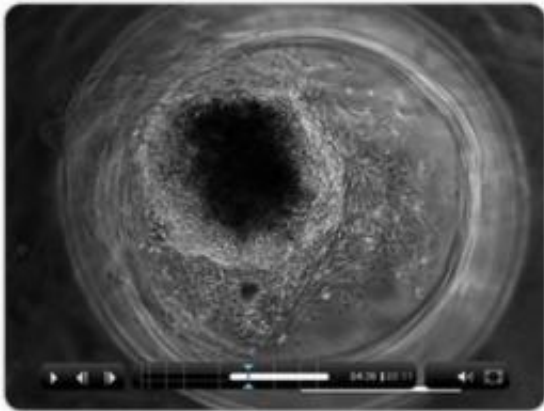


New 3-D stem cell culture method published

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This image shows example results of a mouse induced pluripotent stem cell (iPS) after three days of culture inside of a 3-D fibrin scaffold. Cells have begun to migrate and differentiate inside of the fibrin scaffold. Credit: © *Journal of Visualized Experiments*

Stem cells are the body's mechanics, repairing damaged tissues and organs. Because these cells are able to grow into any type of cell in the body, scientists believe they hold the key to groundbreaking new therapies. To help further this research, scientists from the University of Victoria have found a new way to culture cells in 3D— a significant step forward for regenerative medicine.

"Cells in your body grow and divide in a 3D environment, especially when you think of stem cells, which differentiate to become all the different types of cells in your body," said paper-author Dr. Stephanie Willreth. "Yet, a lot of work is still being done in a 2D environment."

Essentially, since your body is three-dimensional, it makes sense that stem cells do their best repair work in 3D as well. By growing these cells in 3D, researchers are better able to see how these cells behave in conditions that more closely resemble those in the body.

Though Dr. Willreth's lab specifically looks at repairing the spinal cord, she believes growing stem cells in 3D will be important for researchers in other fields as well, so she chose to publish her research in the *Journal of Visualized Experiments*.

"As the study of [stem cells](#) advances, it is necessary to create a culture system that more accurately represents the one cells grow in naturally," said JoVE Associate Editor, Meghan Berryman.

JoVE is the first and only peer reviewed, PubMed-indexed journal to publish all of its content in both text and video format. Dr. Willreth thought her method would be easier for other scientists to learn if she had a video.

More information: The article will be published in *JoVE* on March 2 and can be viewed here: [www.jove.com/video/3641/prepar ... ulture-applications#](http://www.jove.com/video/3641/prepar...ulture-applications#)

Provided by The Journal of Visualized Experiments

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