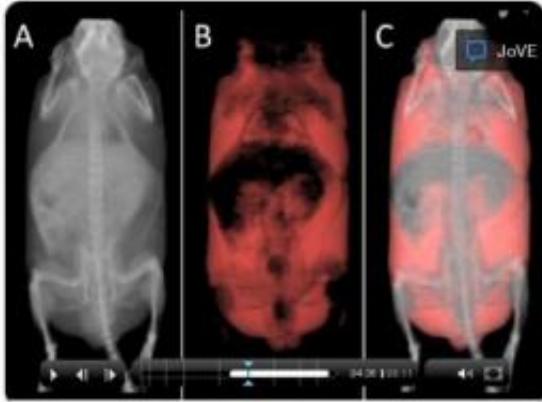


# How fat are your lab mice?

April 4 2012

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These are representative CT images of a mouse segmented for fat. Credit: © *Journal of Visualized Experiments*

Researchers are increasingly aware that fat in some parts of the body is more harmful than fat in other places. To help determine how obesity works, scientists turn to animal models and now, they are able to visualize how much fat their lab rats are carrying and where they are storing it. The method will be published in the April issue of the *Journal of Visualized Experiments (JoVE)*.

"One of the key benefits of this technique versus existing methods, like *ex vivo* analysis, is that this technique allows for non-invasive and longitudinal assessment of fat in small animal [disease models](#)," said paper-author Dr. Todd Sasser.

Traditionally, researchers have had to use either [invasive techniques](#), which provide more insight into where fat is being stored specifically but result in the death of the mouse, or less specific, non-invasive imaging techniques. Here, they use dedicated small animal X-ray computed tomography (CT) and customized analytics to see how the fat is distributed inside the animal.

The process is highly visual, resulting in three-dimensional images of the fat within the mouse, which is why the researchers chose to publish their method in JoVE, the only peer reviewed, PubMed-indexed science journal to publish all of its content in both text and video format.

"Generally, individuals new to this method will struggle, because the segmentation and visualization protocol includes several steps that must be completed in succession," said co-author Sarah Chapman, from the University of Notre Dame.

"As obesity and obesity-related illnesses continue to grow into worldwide problems, it is important to understand their fundamental causes and potential interventions," said JoVE Science Editor, Dr. Charlotte Frank Sage. "This technique details imaging and [analysis technology](#) that enables researchers to longitudinally and quantitatively study adipose content at a high level of detail."

**More information:** The article will be published on April 4, and can be found here: [www.jove.com/video/3680/segmen...-computed-tomography](http://www.jove.com/video/3680/segmen...-computed-tomography)

Provided by The Journal of Visualized Experiments

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