

# An imaging method to quantify dermal fat

August 18 2016

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Mammals contain two main varieties of fat: white adipose tissue (WAT), which is used to store energy, and brown adipose tissue (BAT), which is involved in the regulation of body temperature, particularly in infants. Dermal WAT (dWAT) is the layer of WAT immediately adjacent to the dermis and is known to accumulate in response to ambient cold, hair growth, and exposure to bacteria in mice, but little is known about this tissue in humans.

In this issue of *JCI Insight*, Caroline Alexander and her colleagues at the University of Wisconsin, Madison, report the development of a non-invasive MRI-based method to measure dWAT, total WAT volume, and BAT activation in mice and humans. Using this method, Alexander and colleagues demonstrated that dWAT, as well as visceral WAT and BAT, increase in genetically obese mice and mice fed a high-fat diet over several weeks.

Alexander and colleagues used their imaging technique on 10 healthy human subjects and determined that dWAT thickness was highly variable between subjects and weighed 8.8 kg on average. These studies demonstrate that this MRI-based method can be used to study multiple adipose depots, including dWAT, in both mice and humans.

**More information:** Ildiko Kasza et al, Thermogenic profiling using magnetic resonance imaging of dermal and other adipose tissues, *JCI Insight* (2016). [DOI: 10.1172/jci.insight.87146](https://doi.org/10.1172/jci.insight.87146)

Provided by JCI Journals

Citation: An imaging method to quantify dermal fat (2016, August 18) retrieved 25 April 2024 from <https://medicalxpress.com/news/2016-08-imaging-method-quantify-dermal-fat.html>

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