Fat tissue's "iron sink"

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Adipose tissue, commonly called "body fat," stores excess fatty acids and supplies it back when the need arises. Finely balanced iron levels are important for the health of adipocytes, the cells that make up adipose tissue. Iron overload, especially in adipocytes, can reduce systemic insulin sensitivity.

Immune cells called macrophages are the primary cells responsible for handling iron in the body.

A macrophage in adipose tissue called the MFehi adipose tissue macrophage (ATM) was previously discovered in the lab of Alyssa Hasty, Ph.D. It contains twice the iron as other ATMs and exhibits higher expression of iron-handling genes.

Now in a study in mice published in the *American Journal of Physiology*-Cell Physiology, Hasty and colleagues show that MFehi cells respond to excess extracellular iron by regulating the iron pool inside them and that this function is necessary to prevent overloading the adipocytes when excess iron is present.

More information: Merla J. Hubler et al. MFehi adipose tissue macrophages compensate for tissue iron perturbations in mice, *American Journal of Physiology-Cell Physiology* (2018). DOI: 10.1152/ajpcell.00103.2018

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