

How obesity alters the brain area involved in body weight control

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The number of people who suffer from one or more of the adverse complications of obesity, including type 2 diabetes and heart disease is rapidly increasing.

Thus far, drugs designed to treat obesity have shown limited efficacy and have been associated with serious side effects. This is largely because we have limited understanding of the effects of obesity on our natural mechanisms of body weight control.

For example, while great strides have been made in our understanding of how the brain controls our desire to feed, as well as the processes underlying the balancing of [energy intake](#) and expenditure, little is known about how they are altered by obesity.

Two independent groups of researchers have now generated data that begin to address this issue.

In brief, a team of researchers led by Michael Schwartz, at the University of Washington, Seattle, has found that in both humans and rodents, obesity is associated with neuronal injury in an area of the brain crucial for body weight control (the hypothalamus).

A second team of researchers, led by Jeffrey Flier, at Beth Israel Deaconess Medical Center, Boston, has determined that turnover of [nerve cells](#) in the [hypothalamus](#) is inhibited by obesity.

More information: Remodeling of the arcuate nucleus energy-balance circuit is inhibited in obese mice, *Journal of Clinical Investigation*. Obesity is associated with hypothalamic injury in rodents and humans, *Journal of Clinical Investigation*.

Provided by Journal of Clinical Investigation

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