

Daylight could help control our weight

August 21 2009

Exciting research into Brown adipose tissue (BAT) — brown fat, which is found in abundance in hibernating animals and newborn babies — could lead to new ways of preventing obesity.

Studies have already shown that BAT activity in adults is reduced with [obesity](#). Therefore, promoting BAT function could prevent or reduce obesity in some people.

New research, led by Michael Symonds, Professor of Developmental Physiology in the School of Clinical Sciences at The University of Nottingham, has shown — for the first time — that daylight is a major factor in controlling BAT activity.

Professor Symonds said: "Our research has suggested a previously unknown mechanism for controlling BAT function in humans and this could potentially lead to new treatments for the prevention or reversal of obesity."

Winter was traditionally a time of the year that was accompanied with increased thermal demands and thus [energy expenditure](#), but the body's requirements for BAT has been reduced in recent times by central heating plus global warming. BAT is capable of producing up to 300 times more heat per unit mass compared with all other tissues.

The research, published in the journal *Diabetes*, studied well over 3500 patients. The presence of BAT was documented and correlated with monthly changes in daylight and ambient temperature. Their results

showed that BAT was more common in females and that changes in BAT activity were more closely associated with day light than ambient temperature.

BAT is activated by the cold and is unique in being able to produce very large amounts of heat — but little is known about the main factors that regulate the amount of BAT in our bodies. Professor Symonds said: "Our research demonstrates a very strong seasonal variation in the presence of BAT. The study focused on the impact of daylight and ambient temperature as these are two key factors in determining BAT function in small mammals. Our exciting new findings may help us find novel interventions aimed at promoting BAT activity particularly in the winter."

Source: University of Nottingham ([news](#) : [web](#))

Citation: Daylight could help control our weight (2009, August 21) retrieved 4 May 2024 from <https://medicalxpress.com/news/2009-08-daylight-weight.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--