

Bright light alters metabolism

19 May 2016



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Exposure to bright light could affect your metabolism, reports a new Northwestern Medicine study.

Northwestern scientists found bright light exposure increased [insulin resistance](#) compared to dim light exposure in both the morning and the evening. In the evening, bright light also caused higher peak glucose ([blood sugar](#)) levels.

Insulin resistance is the body's inability to adequately move glucose out of the bloodstream, resulting in a buildup of blood sugar. Over time, the excess blood glucose could result in increased body fat, weight gain and a higher risk for diabetes.

"These results provide further evidence that bright light exposure may influence metabolism," said Kathryn Reid, senior study author and a research associate professor of neurology at Northwestern University Feinberg School of Medicine.

"It's cool that bright light has this effect, but we don't understand why yet," Reid said. "In theory, you could use light to manipulate metabolic function."

Previous research by Northwestern scientists showed that people who received the majority of their bright light in the morning weighed less than those who were exposed to most of their bright light after 12 p.m. The researchers wanted to understand why. Mouse studies also have shown that mice kept in constant light have altered [glucose metabolism](#) and gain weight compared to control mice.

"Our findings show that insulin was unable to acutely bring [glucose levels](#) back to a baseline level following a meal with [bright light](#) exposure in the evening," said first author Ivy Cheung, a postdoctoral fellow in neurology at Feinberg. "The results of this study emphasize that our lighting environment impacts our health outcomes."

The paper was published May 18 in the journal *PLOS ONE*.

More information: Ivy N. Cheung et al. Morning and Evening Blue-Enriched Light Exposure Alters Metabolic Function in Normal Weight Adults, *PLOS ONE* (2016). [DOI: 10.1371/journal.pone.0155601](https://doi.org/10.1371/journal.pone.0155601)

Provided by Northwestern University

APA citation: Bright light alters metabolism (2016, May 19) retrieved 22 September 2019 from <https://medicalxpress.com/news/2016-05-bright-metabolism.html>

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