

Scheduled feeding improves neurodegenerative symptoms in mice

January 2 2018

Ad-Lib



Age: 6mo

Time Restricted Feeding



Age: 6mo



Age: 9mo

Age: 9mo

Assay after treatment:



Locomotor activity



Sleep



Heart rate variability



Motor performance



After 3 months of treatment (when mice reached the early disease stage), the time-restricted feeding-treated Q175 mouse model of Huntington's disease showed improvements in locomotor activity rhythm and sleep awakening time. Credit: Wang et al., *eNeuro* (2018)

Restricting meals to the same time each day improves motor activity and sleep quality in a mouse model of Huntington's disease, according to new research published in *eNeuro*. These findings suggest that eating on a strict schedule could improve quality of life for patients with neurodegenerative diseases for which there are no known cures.

Christopher Colwell and colleagues used a well-studied mouse line that models the genetic cause and symptoms of Huntington's disease, including [sleep disruptions](#) that appear to be a general feature of neurodegenerative disorders. By restricting food availability to a 6-hour period in the middle of the period when the mice are active, the researchers demonstrate in these mice improved performance on two different motor tasks and a more typical rhythm of daily activity. In addition, these mice showed improved heart rate variability, a marker of cardiovascular health, and more typical gene expression in the striatum, a brain region involved in motor control that is susceptible to degeneration in Huntington's disease.

This study, which manipulated the availability but not the quantity of food, point to time of feeding as an additional environmental signal that might work in conjunction with light to regulate the body clock.

More information: Time restricted feeding improves circadian

dysfunction as well as motor symptoms in the Q175 mouse model of Huntington's disease, [DOI: 10.1523/ENEURO.0431-17.2018](https://doi.org/10.1523/ENEURO.0431-17.2018)

Provided by Society for Neuroscience

Citation: Scheduled feeding improves neurodegenerative symptoms in mice (2018, January 2)
retrieved 20 November 2023 from
<https://medicalxpress.com/news/2018-01-neurodegenerative-symptoms-mice.html>

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