

# Time-restricted eating reduces cardiovascular health risks associated with shift work for firefighters

October 4 2022

---



From left: David Picone, Kyle O'Neill, Pam Taub, Emily Manoogian, and Satchidananda Panda. Credit: UC San Diego Health

Shift work has been linked to a number of health problems, including higher rates of diabetes, heart attacks, and other cardiometabolic diseases. But despite the known risks, little research has been done to identify lifestyle interventions that could help prevent these concerns. A new randomized, controlled clinical trial, published October 4 in *Cell*

*Metabolism*, found that time-restricted eating (TRE) could be safely practiced in shift workers. Additionally, the researchers found that TRE provided benefits to participants who had indications of cardiometabolic disease. Called the Healthy Heroes Study, the intervention focused on San Diego firefighters.

"Shift work is much more common than many people think, affecting workers in a range of different fields as well as parents of newborn babies," says co-corresponding author Satchidananda Panda, a professor at the Salk Institute and holder of the Rita and Richard Atkinson Chair. "Not only does [shift work](#) contribute to an increased burden of disease in our society, but it makes it hard for people with existing conditions like diabetes and cardiovascular disease to manage them."

"Within the confines of shift work, there are many [lifestyle interventions](#) that can potentially optimize the health of shift workers," says co-corresponding author Pam Taub, a cardiologist and professor in the University of California San Diego School of Medicine's Division of Cardiovascular Medicine. "However, there are very few research studies on this population. Our study sheds light on one way that we can help this population."

Panda and Taub have collaborated on research into TRE for several years. In January 2020, they published a study in *Cell Metabolism* that found that restricting the time of eating to 10 hours a day reduced body weight and improved [blood pressure](#) and [cholesterol levels](#) in people with metabolic syndrome. In the current study, they focused on TRE in shift workers. The trial recruited San Diego firefighters, who work 24-hour shifts. There were 137 firefighters ultimately enrolled in the study; 70 followed TRE, eating all of their meals within a 10-hour time window, and 67 were in the [control group](#). All participants were encouraged to follow a Mediterranean diet that was rich in fruits, vegetables, whole grains, and healthy fats. The subjects were followed

for 12 weeks.

One barrier to conducting research studies with shift workers has been the subjects' inability to come to the lab during regular business hours. The researchers got around this by going to the fire stations to apply wearable devices on the participants to collect their activity, sleep, and blood glucose levels. They also customized an app that allowed the firefighters to log their food and sleep and answer study surveys; the app also enabled the researchers to send study materials and to guide the participants on following the recommended lifestyle.

The investigators found that for the firefighters, following a time-restricted eating pattern was both safe and feasible. The subjects didn't report any problems with concentration, reaction times, or other issues. Their [quality of life](#) generally improved.

"Overall, firefighters are a pretty healthy group of people, but we found that for those who had underlying cardiometabolic risk factors like [high blood pressure](#), high cholesterol, and hyperglycemia, there was some benefit to TRE, especially in terms of improvement in glucose levels and blood pressure," Taub says. "Even those who were healthy with no underlying cardiometabolic risk factors had improvements in quality of life and in VLDL, which is a form of bad cholesterol."

Taub and Panda say they would like to conduct similar research on other [shift workers](#), especially [healthcare workers](#), but it's difficult to get funding for such studies.

"Humans have been living with [circadian rhythms](#) for at least 200,000 years, and these rhythms clearly have a profound effect on us," Panda says. "Shift workers, whether they are astronauts or custodians, are vital to our society. It's time to think about how we might help them improve their health."

**More information:** Satchidananda Panda, Feasibility of Time-Restricted Eating and Impacts on Cardiometabolic Health in 24-Hour Shift Workers: The Healthy Heroes Randomized Clinical Trial, *Cell Metabolism* (2022). DOI: [10.1016/j.cmet.2022.08.018](https://doi.org/10.1016/j.cmet.2022.08.018).  
[www.cell.com/cell-metabolism/f ... 1550-4131\(22\)00361-8](https://www.cell.com/cell-metabolism/fulltext/S1550-4131(22)00361-8)

Provided by Cell Press

Citation: Time-restricted eating reduces cardiovascular health risks associated with shift work for firefighters (2022, October 4) retrieved 20 June 2024 from <https://phys.org/news/2022-10-time-restricted-cardiovascular-health-shift-firefighters.html>

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.