# US economy adds 228,000 jobs while research reveals new insights into muscle healing



The US economy demonstrated significant growth in employment in March, with the addition of 228,000 new jobs, according to recent government data. This increase is part of an ongoing recovery trajectory for the nation's job market, reflecting resilience in various sectors despite prevailing economic challenges.

In a different realm of research, a pivotal study by Northwestern Medicine has unveiled intriguing insights into the body's internal clock, particularly its influence on muscle healing. The findings suggest that muscle injuries tend to heal more rapidly if they occur during the body's natural wake periods, shedding light on critical biological processes linked to ageing and obesity.

This study posits that the circadian clock—an intrinsic time-keeping mechanism within the body—plays a critical role in regulating how our muscles respond to injury. Researchers conducted single-cell sequencing analyses of both injured and uninjured muscles in mice, evaluating various times throughout the day to determine the impact of circadian rhythms on muscle recovery.

The research underscored that the timing of an injury significantly affects inflammatory responses in muscle stem cells. These stem cells are instrumental in signalling to neutrophils, the immune cells that act as first responders during muscle regeneration. Remarkably, the scientists observed a more vigorous signalling activity immediately following an injury if sustained during the mice's waking hours.

The study also highlighted the role of nicotinamide adenine dinucleotide (NAD+), a crucial coenzyme found in all cells essential for energy production and various metabolic processes. The team utilised a genetically modified mouse model to enhance NAD+ production specifically in muscle stem cells. They discovered that increased NAD+ levels stimulate inflammatory responses and facilitate the recruitment of neutrophils, thereby promoting muscle regeneration.

The implications of this research extend beyond understanding muscle repair. The study's findings could have profound consequences for shift workers, who often experience disrupted circadian rhythms, and could also help elucidate the adverse effects of factors such as jet lag and changes brought on by daylight saving time.

Lead researcher Clara Peek, an assistant professor of biochemistry, elaborated on the significance of these findings, stating, “In each of our cells, we have genes that form the molecular circadian clock. These clock genes encode a set of transcription factors that regulate many processes throughout the body and align them with the appropriate time of day. Things like sleep/wake behaviour, metabolism, body temperature and hormones — all these are circadian.”

The research also presents possibilities for understanding circadian disruptions linked to ageing and metabolic syndromes such as obesity and diabetes, both of which are associated with impaired muscle regeneration. The study is published in the journal Science Advances under the title “Immunomodulatory role of the stem cell circadian clock in muscle repair.”

Source: [Noah Wire Services](https://www.noahwire.com)

## References

* <https://www.whitehouse.gov/articles/2025/04/jobs-jobs-jobs-explosive-job-growth-in-march-as-trump-economy-booms/> - This URL corroborates the claim of significant job growth in the US economy in March, with 228,000 new jobs added, reflecting resilience in various sectors despite economic challenges.
* <https://www.bls.gov/news.release/archives/empsit_04072023.pdf> - While not specifically about March 2025, this report from the Bureau of Labor Statistics provides context on the overall employment trends and how they are measured.
* <https://www.noahwire.com> - This URL is mentioned as a source for the information regarding the US economy and the Northwestern Medicine study on muscle healing and circadian rhythms.
* <https://research.northwestern.edu/> - Northwestern University's research portal could provide information on studies related to muscle healing and circadian rhythms, though specific details on the study mentioned in the article might not be available here.
* <https://advances.sciencemag.org/> - This URL leads to the journal Science Advances, where the research study titled 'Immunomodulatory role of the stem cell circadian clock in muscle repair' could be published.