

# Sleep deprivation may affect our genes

January 24 2019

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Sleep deprivation was associated with DNA damage in a new *Anaesthesia* study.

In the observational study on 49 healthy full-time doctors who had their blood analyzed at different time points, on-call doctors who were required to [work](#) overnight on-site had lower DNA repair gene expression and more DNA breaks than participants who did not work overnight. In these overnight on-site call doctors, DNA repair gene expression decreased and DNA breaks increased after [sleep deprivation](#).

Damaged DNA increased after only one night of sleep deprivation.

Although additional research is needed, this DNA damage may help explain the increased risk for cancer and cardiovascular, metabolic, and [neurodegenerative diseases](#) associated with sleep deprivation.

"Although this work is very preliminary, it is clear from the results that even a single night of sleep deprivation can trigger events that may contribute to the development of chronic disease," said senior author Dr. Siu-Wai Choi, of the University of Hong Kong.

"Anaesthetists (and other [health professionals](#)) frequently work night shifts and on call duties, and their work patterns change frequently between night and day work. This study is important in that it will allow future researchers to study the impact of changing the way we work and other interventions by evaluating DNA breaks in the same way as the authors of this groundbreaking study have done," said Dr. Klein, the Editor-in-Chief of the journal.

**More information:** *Anaesthesia* (2019). [DOI: 10.1111/anae.14533](https://doi.org/10.1111/anae.14533) , [onlinelibrary.wiley.com/journal/13652044](https://onlinelibrary.wiley.com/journal/13652044)

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Citation: Sleep deprivation may affect our genes (2019, January 24) retrieved 25 April 2024 from <https://medicalxpress.com/news/2019-01-deprivation-affect-genes.html>

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