

Stress of social disadvantage increases risk of osteoporosis

February 10 2016, by Mandi O'garretty

New research shows that the stress of social disadvantage could be putting people at higher risk of developing osteoporosis.

An international team of researchers led by Deakin University's Dr Sharon Brennan-Olsen has proposed a new model for looking at what happens to the body throughout the lifespan to cause the development of [osteoporosis](#). Their work suggests that the stress associated with social disadvantage triggers a genetic response in the body that puts people at higher risk of getting osteoporosis.

"Over the last few years, our research has shown that there is a social gradient of osteoporosis, whereby people of lower socioeconomic status are at higher risk. What we have not known is why," said Dr Brennan-Olsen, who heads the Health Equity Epidemiology Division in the IMPACT Strategic Research Centre at Deakin and is also affiliated with the University of Melbourne and Australian Catholic University.

"We have shown that in addition to other factors that have direct impact on [bone health](#) such as physical activity and diet, the stress of [social disadvantage](#) causes physiological wear and tear on the body. This sets off a chain of biological events that turn off certain genes and ultimately weaken the [bone structure](#) and increase the chance of developing osteoporosis," she explained.

Dr Brennan-Olsen said further research was needed to better understand which genetic mechanisms are altered by a person's psychological and

social conditions to cause the increased risk of osteoporosis.

"While we don't yet have the full picture, the insights we now have into the [genetic mechanisms](#) that impact bone health strengthen the importance of lifestyle changes and stress reduction programs to help reduce health inequities across social groups."

The research team's work has been published in *Bone*, a leading international journal in the field of [bone](#) and mineral research.

More information: Sharon L. Brennan-Olsen et al. DNA methylation and the social gradient of osteoporotic fracture: A conceptual model, *Bone* (2016). [DOI: 10.1016/j.bone.2015.12.015](https://doi.org/10.1016/j.bone.2015.12.015)

Provided by Deakin University

Citation: Stress of social disadvantage increases risk of osteoporosis (2016, February 10)
retrieved 26 April 2024 from
<https://medicalxpress.com/news/2016-02-stress-social-disadvantage-osteoporosis.html>

<p>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.</p>
--