

Manual workers face twice the risk of developing ALS

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Construction workers in Malta Credit: Mark Zammit Cordina, Times of Malta

ALS is a progressive neurological disease that attacks the nerves that interact with the body's muscles. The disease typically leads to complete paralysis of the body, robbing patients of their ability to walk, speak, eat and breathe.

Researchers studied ALS patients and healthy elderly volunteers living in Malta who took part in an [ongoing study](#) aiming at identifying genetic and environmental risk factors. Malta is a sovereign microstate in the middle of the Mediterranean Sea, and is home to a geographically and culturally isolated population. Recently, Maltese ALS patients were found to have a unique genetic makeup compared to their European counterparts.

In this study, based on [demographic data](#) collected over a four-year period, the researchers found that manual workers were twice as likely to develop ALS. Indeed, close to two thirds of ALS patients reported a blue-collar job as their main occupation during their entire career.

"We have long known that Italian football players,

American National Football League players and military serviceman have an increased risk of ALS compared to the general population. A common thread running through these professions is sustained or strenuous physical exertion. Our study supports this notion," said the study's lead researcher Dr. Ruben J. Cauchi, Ph.D., a senior lecturer at the University of Malta's School of Medicine and lead investigator at the University of Malta's Centre for Molecular Medicine and Biobanking.

Despite the fact that Malta does not have professional football players nor an elite military service, the study found that sweat-inducing jobs including those in construction and carpentry were associated with a higher ALS risk. Patients in these occupations were more prone to develop bulbar-onset ALS, a form of the disease in which speech or swallowing problems appear before muscle weakness in the limbs. Patients with bulbar-onset ALS fare worse than those with limb-onset.

The setting up of a national ALS Registry and Biobank at the University of Malta in 2017, with the aim of identifying and tracking ALS patients and healthy volunteers, was key for this discovery. Right now, the research team is studying the interplay between genetics and environmental exposures in causing ALS in patients.

More information: Maia Farrugia Wismayer et al, Occupation and amyotrophic lateral sclerosis risk: a case-control study in the isolated island population of Malta, *Amyotrophic Lateral Sclerosis and Frontotemporal Degeneration* (2021). DOI: [10.1080/21678421.2021.1905847](https://doi.org/10.1080/21678421.2021.1905847)

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