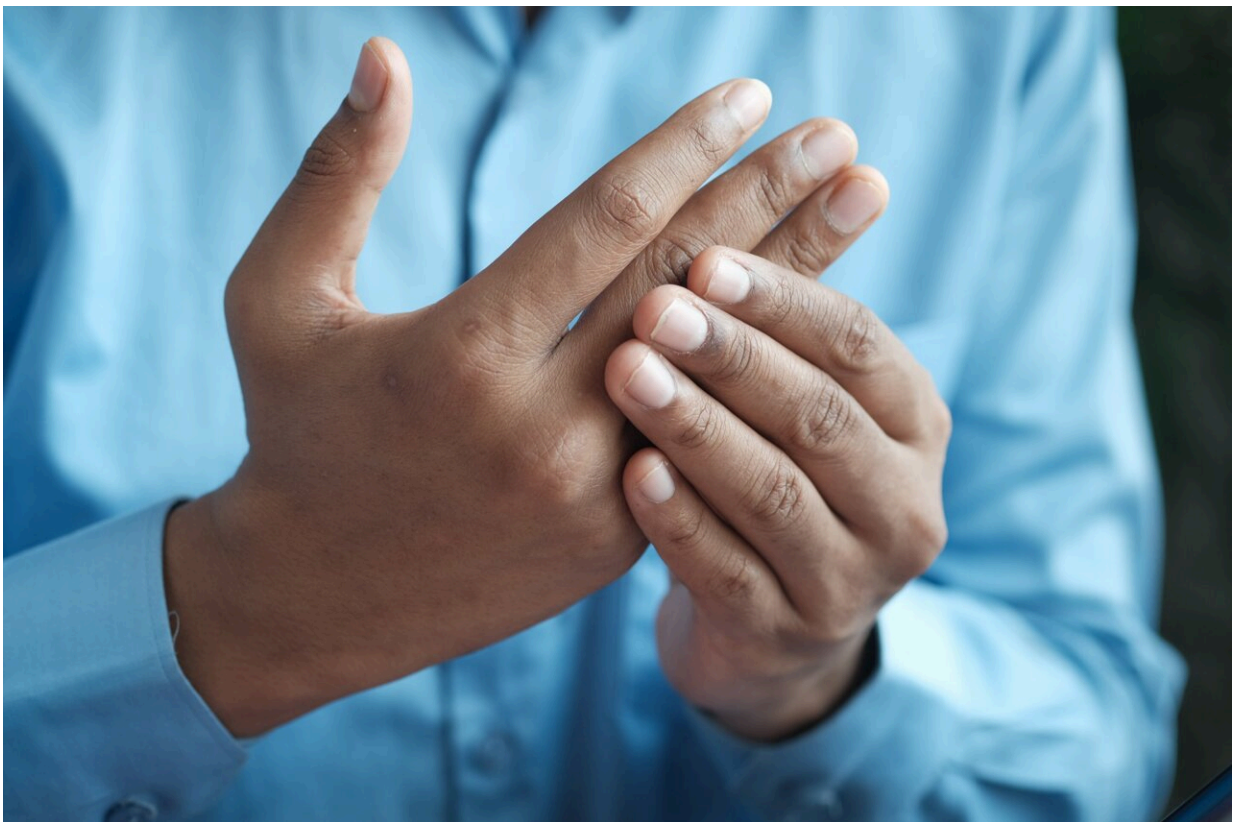


# Korean population study shows increased Parkinson's disease in rheumatoid arthritis patients

May 18 2023, by Justin Jackson

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Research led by Kosin University College of Medicine in Korea has found a correlation between patients with rheumatoid arthritis and

Parkinson's disease. In their paper published in *JAMA Neurology*, researchers found a significantly higher risk of Parkinson's disease (PD) in patients with rheumatoid arthritis (RA).

In a cohort study of 54,680 patients with RA and 273,400 individuals without, the data showed those with RA had a 1.74-fold higher risk of PD than those without RA.

The authors suggest that physicians should be aware of the elevated risk of PD in patients with RA and that prompt referral to a neurologist should be considered at the onset of early motor symptoms.

The [retrospective cohort study](#) used the Korean National Health Insurance Service database to collect population-based, nationally representative data on patients with RA enrolled from 2010 to 2017 and followed up until 2019.

A total of 54,680 patients with RA were included, 39,010 with seropositive RA and 15,670 with seronegative RA. A five-to-one matching demographic control group of patients without RA was also included for a total control population of 273,400.

From the total 328,080 population analyzed, 1,093 developed PD (803 controls and 290 with RA). Participants with RA had a 1.74-fold higher risk of PD (1.52–1.99) compared to controls. A greater risk of PD was found in patients in the seropositive RA group (1.68–2.26) but less elevated in the seronegative RA type (0.91–1.57).

The results are interesting because, as the authors note, they run counter to previous studies on the relationship between the pathologies.

A 2009 Danish Cancer Society population-based case-control study, "Autoimmune disease and risk for Parkinson disease: a population-based

case-control study," was conducted in Denmark of 13,695 patients with a primary diagnosis of PD. These were also matched demographically to five population controls selected at random from among inhabitants of Denmark and saw a decrease in risk for PD of 30%.

Similarly, a 2021 study with a Swedish cohort of 8,256 PD patients matched to ten controls based on demographics found individuals with a previous diagnosis of RA had a significantly decreased risk of later developing PD by 30%–50% compared to individuals without an RA diagnosis.

And a 2016 study in Taiwan, "Reduced Risk of Parkinson Disease in Patients With Rheumatoid Arthritis: A Nationwide Population-Based Study," found 35% lower rates of PD in 33,221 RA patients. However, a 2017 Taiwan study, "Autoimmune rheumatic diseases and the risk of Parkinson disease: a nationwide population-based [cohort study](#) in Taiwan," with 19,542 RA patients, suggested a 14% increased risk.

The current study's researchers suggest further studies are necessary to determine a mechanistic link between RA and PD based on the significant positive correlation in their data.

With previous studies having such dramatically different results, it may be that the correlations seen statistically, both positive and negative, are evidence that no mechanism between the two exists. If a connection does exist, the accumulation mechanism would be at an interesting crossroads as RA is a highly heritable disease, whereas PD only has [genetic markers](#) in about 10% of cases and is thought to be heavily influenced by environmental factors. Further research will be needed to untangle the conflicting data.

**More information:** Jihun Kang et al, Rheumatoid Arthritis and Risk of Parkinson Disease in Korea, *JAMA Neurology* (2023). [DOI:](#)

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