

Low testosterone levels may herald rheumatoid arthritis in men

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Low testosterone levels may herald the subsequent development of rheumatoid arthritis in men, suggests research published online in the *Annals of the Rheumatic Diseases*.

[Sex hormones](#) are thought to play a part in the development of rheumatoid arthritis, and both men and women with the condition tend to have lower levels of testosterone in their blood than healthy people. But it is not clear whether this is a contributory factor or a consequence of the disease.

The researchers based their findings on participants of the Swedish Malmo Preventive [Medicine Program](#) (MPMP), which began in 1974 and tracked the health of more than 33,000 people born between 1921 and 1949.

As part of their inclusion in the Program, participants were subjected to a battery of tests, completed a questionnaire on health and [lifestyle factors](#), and left blood samples after an overnight fast.

The authors identified all those MPMP participants who were subsequently diagnosed with rheumatoid arthritis up to December 2004 by cross checking national and regional registers.

Stored blood samples were available for 104 of the men who subsequently developed rheumatoid arthritis, and for 174 men of the same age who did not develop the disease.

The average period of time that elapsed between donating the blood sample and a diagnosis of rheumatoid arthritis was just under 13 years, but ranged from one to 28.

Rheumatoid factor status was known at diagnosis for 83 of the men, almost three out of four (73%) of whom tested positive for it; the rest tested negative. Rheumatoid factor is an antibody that indicates disease severity and is used to categorise the condition.

After taking account of smoking and [body mass index](#), both of which can affect the risk of rheumatoid arthritis, men with lower levels of testosterone in their blood samples were more likely to develop the disease.

This was statistically significant for those who tested negative for rheumatoid factor when they were diagnosed.

These men also had significantly higher levels of follicle stimulating hormone - a chemical that is involved in sexual maturity and reproduction - before they were diagnosed with rheumatoid arthritis. This is likely to be secondary to reduced testosterone production, say the authors.

The findings prompt them to suggest that hormonal changes precede the onset of rheumatoid arthritis and could influence [disease severity](#).

They point to other studies, which indicate that testosterone may dampen down the immune system, so quelling inflammation. [Rheumatoid arthritis](#) is also more likely to go into remission in its early stages in men, they say.

More information: Association between testosterone levels and risk of future rheumatoid arthritis in men: a population based case-control

study, Online First, [doi: 10.1136/annrheumdis-2012-202781](https://doi.org/10.1136/annrheumdis-2012-202781)

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