

# Is rheumatoid arthritis two different diseases?

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While disease activity improves over time for most rheumatoid arthritis (RA) patients, long-term outcomes only improve in RA patients with autoantibodies, according to a new study published this week in *PLOS Medicine* by Xanthe Matthijssen of Leiden University Medical Center, Netherlands, and colleagues. The findings add to a growing body of evidence that RA with and without autoantibodies are two distinct conditions.

Rheumatoid arthritis is the most common type of autoimmune arthritis, caused when the immune system attacks healthy cells in the linings of joints. Over the last decade it has become clear that there are differences in RA patients with and without RA-associated autoantibodies detectable in their blood. In the new study, researchers followed 1,285 RA patients between 1993 and 2016 through the Leiden Early Arthritis Clinic cohort. Data on patients' symptoms, treatments, autoantibody status, disability and mortality was collected annually.

In total, 823 patients had autoantibody-positive RA and 462 patients had autoantibody-negative RA. In

both groups, [disease activity](#) decreased significantly over time. Sustained drug-free remission rates increased, as a new treat-to-target treatment strategy became common in 2006 to 2010, in patients with autoantibody-positive, but not autoantibody-negative, RA. Moreover, mortality and functional disability rates decreased with treat-to-target adjustments only in autoantibody-positive [patients](#).

"The disconnection between improvement in disease activity and subsequent improvement in long-term outcomes in RA without autoantibodies suggests that the underlying pathogenesis of RA with and without autoantibodies is different," the authors say. "We propose that it is time to formally divide RA into type 1, with autoantibodies, and type 2, without autoantibodies, in the hope that it leads to stratified treatment in autoantibody-positive and autoantibody-negative RA."

Dr. Matthijssen notes "In the last decennia research in RA has largely focused on the autoantibody-positive subset. More research on autoantibody-negative RA is urgently needed to identify methods to also improve their long-term outcomes."

**More information:** Matthijssen XME, Niemantsverdriet E, Huizinga TWJ, van der Helm-van Mil AHM (2020) Enhanced treatment strategies and distinct disease outcomes among autoantibody-positive and -negative rheumatoid arthritis patients over 25 years: A longitudinal cohort study in the Netherlands. *PLoS Med* 17(9): e1003296. [doi.org/10.1371/journal.pmed.1003296](https://doi.org/10.1371/journal.pmed.1003296)

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