

Consumption of water containing a high concentration of molecular hydrogen reduces oxidative stress and disease activity in patients with rheumatoid arthritis: an open-label pilot study



Study:

“Consumption of water containing a high concentration of molecular hydrogen reduces oxidative stress and disease activity in patients with rheumatoid arthritis: an open-label pilot study” (2012) – PMID: 23031079. This study tested whether drinking hydrogen-rich water could help people with rheumatoid arthritis (RA).

What was the goal? Researchers wanted to see:

Can drinking hydrogen-rich water reduce inflammation and symptoms in rheumatoid arthritis? Their theory was that RA involves oxidative stress (cell damage from inflammation), and molecular hydrogen might help reduce that damage.

How was the study done?

- 20 people with rheumatoid arthritis
- Participants drank ~530 mL (about 18 oz) of high-concentration hydrogen water daily
- Water contained 4–5 ppm hydrogen (higher concentration than regular hydrogen-saturated water)
- **Duration:** 4 weeks drinking, 4 weeks washout (break) another 4 weeks drinking again
- Researchers measured inflammation and disease activity throughout the study.

What did they measure? Researchers tracked:

- 8-OHdG → a marker of oxidative stress/cell damage
- DAS28 score → a standard rheumatoid arthritis disease activity score
- CRP (C-reactive protein) → inflammation marker
- Symptoms and remission status.

Main findings (simple version)

- ✓ Oxidative stress decreased The oxidative stress marker (8-OHdG) dropped by about 14% on average.
- ✓ RA symptoms improved Disease activity scores (DAS28) improved significantly.
- ✓ Some patients improved dramatically
 - In people with early rheumatoid arthritis, especially those without certain autoimmune antibodies (ACPA-negative): all 5 achieved remission, 4 became symptom-free by the end of the study.
- ✓ Benefits continued somewhat even after stopping. Some improvements remained during the washout period, suggesting effects may have persisted temporarily.

What does this mean in plain English?

This study suggests: Hydrogen-rich water may help reduce inflammation and oxidative stress in rheumatoid arthritis, especially early disease. Researchers thought hydrogen might be helping by reducing inflammatory cell damage, which could calm autoimmune activity



To Read The Full Study Please

