

Statin Use Increases Odds of Back Disorder: Cohort Study

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DALLAS, TX — In a large observational study of insured individuals in the military and their family members, statin use was associated with increased odds of having a back disorder, including spondylosis, intervertebral disc disorders, herniated discs, and spinal stenosis^[1].

Specifically, for every 17 individuals who were prescribed a statin, one person had a diagnosed back disorder, in this study published online May 1, 2017 as a research letter in *JAMA Internal Medicine*.

"Some of these adverse effects [from statins] can greatly impact day-to-day quality of life for our patients," especially in those who are physically active, lead author Dr Una E Makris (VA North Texas Health Care System and UT Southwestern Medical Center, Dallas) told [heartwire](#) from Medscape in an email. "We hope that musculoskeletal adverse events will be part of the patient-provider discussion on the risk/benefit ratio" of these drugs.

"Our results provide additional motivation to further investigate the overall influence of statin therapy on musculoskeletal health, specifically if prescribed for primary prevention in physically active individuals," the researchers summarize.

Can Statins Cause Back Pain?

Two previous studies based on NHANES data reported that statin use was associated with musculoskeletal pain including back pain among individuals without arthritis^[2,3].

Severe back pain is both debilitating and costly. In 2005, it was estimated that back pain cost the healthcare system more than \$100 billion, Makris noted.

The researchers retrieved data from 60,455 individuals who were at least 30 years old, lived in the San Antonio area, and were enrolled in the TRICARE health insurance system from 2003 to 2012. Of these, 17% were active military personnel and the rest were family members and veterans.

About one in six individuals (10,910) had been prescribed a statin, usually simvastatin (in 72% of prescriptions), and on average, they had been taking this drug for 3.7 years.

The researchers matched 6728 statin users with an equal number of statin nonusers. They had a mean age of 52 and 47% were women. A quarter were overweight or obese; 53% had hypertension; 20% had diabetes; and 40% had osteoarthritis.

Close to a third (30%) had a back disorder.

In the propensity-matched cohort, being prescribed a statin (as opposed to not being prescribed this drug) significantly raised the odds of having a back disorder (odds ratio 1.27; 95% CI 1.19–1.36).

In the overall cohort and in prespecified subgroups (such as nonobese individuals, healthy individuals, or those without musculoskeletal conditions at baseline, statin use was consistently associated with increased odds of being diagnosed with a back disorder.

In an analysis of the overall cohort, but with adjustment for propensity scores, the risk increase for a back disorder went from 30% among statin users to 47% among those taking high-intensity statins. It also increased with duration to as high as 59% with ≥ 4 years of use.

Adjusted* Odds Ratio (OR) of a Back Disorder, Statin Users vs Nonusers

| Group | OR (95% CI)* |
|-----------------------|------------------|
| Overall cohort | 1.30 (1.23–1.38) |
| ≥ 2 y statin use | 1.47 (1.39–1.56) |
| ≥ 4 y statin use | 1.59 (1.47–1.71) |
| High-intensity statin | 1.47 (1.34–1.62) |

*Adjusted for propensity score, medications used, and use of revascularization procedures during follow-up

"Further prospective studies are needed to better understand the mechanism of how statins can contribute to back disorder diagnoses," said Makris.

"We are not advocating for taking patients off statins if they have cardiovascular risk factors. As clinicians we should be aware of these potential associations and understand the spectrum of potential adverse effects."

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