

Stretching Before Activity

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Does static stretching before biking reduce risk of injury as opposed to not? Your gym teacher may call out blasphemy, but the evidence suggests a pretty resounding no.

A literature review covering 12 studies (just over 6500 athletes) in different disciplines and levels concluded that “stretching before exercise **alone** found no significant difference in injury rates” and could actually trend “toward a higher injury rate in people who stretch.” Studies that explored **multiple** interventions, including stretching, showed lower incidence of injury [Shrier], indicating more effective pre-exercise routines outside of stretching.

In a landmark study published in 2000, 1538 Australian soldiers participated in a randomized clinical trial to investigate whether pre-exercise stretching affected lower extremity injury. “There were 158 injuries in the stretch group and 175 in the control,” showing no significant difference between groups [Pope]. That being said, despite the large population and impressive amount of control in the study, its external validity (its application to our specific question) is limited as cycling differs from military training. Marching, strength training, and jogging may embody a runner more closely. This will be a recurring theme. There many studies, let alone strong ones, on trained cyclists.

That considered, an epidemiological study (via questionnaire) on 518 recreational cyclists in California showed a significant effect of pre-exercise stretching and groin/buttocks conditions in females **only** [Wilber]. Low power of this study compared to others increases doubt on its conclusion, but important to keep in consideration.

The evidence suggests that stretching pre-exercise doesn't reduce risk of injury. That being said, more studies on cyclists are needed before conclusions can be made about this particular population. Now this doesn't mean that range of motion and flexibility is an irrelevant aspect of performance. Just ask Peter Sagan. He's done pretty well for himself and he can do the splits!



Picture from *Canadian Cycling Magazine*

Sources

Pope, Rodney Peter, et al. "A Randomized Trial of Preexercise Stretching for Prevention of Lower-Limb Injury." *Medicine and Science in Sports and Exercise*, 2000.

Shrier, Ian. "Stretching Before Exercise Does Not Reduce the Risk of Local Muscle Injury." *Clinical Journal of Sports Medicine*, 1999.

Wilber, C., et al. "An Epidemiological Analysis of Overuse Injuries Among Recreational Cyclists." *International Journal of Sports Medicine*, vol. 16, no. 03, 1995, pp. 201-206.