

References: Stretching — Does It Really Do What We Think It Does?

Ingraham, P. (2026, February 19). *Stretching not exactly a pillar of fitness: 20 experts agree*. PainScience. <https://www.painscience.com/blog/stretching-not-exactly-a-pillar-of-fitness-20-experts-agree.html>

- Common stretching practices include:
- According to a consensus of 20 stretching experts in 2025, stretching reliably improves flexibility”.
- There is also some emerging research which suggests that stretching may improve arterial stiffness
- Some people stretch to prevent DOMS
- Some athletes stretch to improve performance

Ingraham, P. (2026). *Quite a stretch: Stretching science has shown that this extremely popular form of exercise has almost no measurable benefits*. PainScience. <https://www.painscience.com/articles/stretching.php>

- There is currently no strong evidence that stretching prevents injury, speeds up recovery, prevents DOMS, or improves performance. Static stretching is also not considered an appropriate warm-up strategy
- There is one thing that researchers do agree upon with regards to stretching: It improves flexibility, but so does strength training
- nobody can say with much authority how often you need to stretch or how long a stretch should be held
- The biomechanics of stretching are still surprisingly controversial... the neurological adaptation rather than structural change.
- Common stretching practices include:
- Reciprocal Inhibition, the idea supporting PNF (that contracting the one muscle automatically relaxes its opposite) was thoroughly debunked in about 2009
- strength training offers a better return on time investment
- Stretching to warm up
- Studies dating back as far as 2005 have not supported the idea that stretching prevents muscle injuries
- Stretching does not help you recover from injury
- Rehabilitation generally focuses on load management and progressive strengthening and is sometimes accompanied by stretching
- Some people stretch to prevent DOMS

- Some athletes stretch to improve performance
- So why do we still stretch? It feels good
- That sensation of stiffness can arise from many sources
- Certain medical conditions — such as Ehlers–Danlos syndrome — also make aggressive stretching inappropriate
- no evidence to suggest that stretching, even neurodynamic stretching, meaningfully prevents or treats these conditions.
- Some muscles, such as the quads, are barely stretch-able
- When movement training develops strength, range,

Maeo, S., Meng, H., Yuhang, W., & Sakurai, H. (2021). Greater hamstrings muscle hypertrophy but similar damage protection after training at long versus short muscle lengths. *Medicine & Science in Sports & Exercise*, 53(4), 825–837.

<https://doi.org/10.1249/mss.0000000000002523>

- Research increasingly suggests that this kind of loading may even stimulate longitudinal growth of the muscle fascicles themselves, allowing muscles to operate more comfortably at longer lengths

Ng, N. (2021, May 7). *How to become flexible with strength training*. *Massage & Fitness Magazine*. <https://massagefitnessmag.com/massage/how-to-become-flexible-with-strength-training/>

- There is one thing that researchers do agree upon with regards to stretching: It improves flexibility, but so does strength training
- But flexibility is not a primary health marker in the way that cardiovascular fitness or lean muscle mass are
- when people train these qualities, flexibility often improves anyway.
- Dynamic stretching
- strength training offers a better return on time investment
- Studies dating back as far as 2005 have not supported the idea that stretching prevents muscle injuries
- Research increasingly suggests that this kind of loading may even stimulate longitudinal growth of the muscle fascicles themselves, allowing muscles to operate more comfortably at longer lengths

The Australian Ballet. (n.d.). *Strength beats stretch*.

<https://australianballet.com.au/blog/strength-beats-stretch>

- The Australian Ballet Company, for example, has shifted away from traditional passive stretching and toward strength-based approaches to flexibility
- So why do we still stretch? It feels good
- Strength training – particularly when muscles are challenged at longer lengths – can improve range of motion by giving muscles and joints the strength they need to move safely through those ranges

Wolf, M., Androulakis Korakakis, P., Roberts, M. D., Plotkin, D. L., Franchi, M. V., Contreras, B., Henselmans, M., Larsen, S., & Schoenfeld, B. J. (2025). Does longer-muscle length resistance training cause greater longitudinal growth in humans? A systematic review. *Sports Medicine and Health Science*, 8(1), 34–42.

<https://doi.org/10.1016/j.smhs.2025.03.001>

- Research increasingly suggests that this kind of loading may even stimulate longitudinal growth of the muscle fascicles themselves, allowing muscles to operate more comfortably at longer lengths

Woods, J. H. (2025, September). *How to get flexible one time, forever* [Video]. YouTube.

<https://www.youtube.com/watch?v=NwX2dh0dwNA>

- Isometric version: Move into a forward fold (head dropping toward your toes) until you feel the hamstrings stretch. Then gently pull your heels into the floor – as if you were trying to drag them backwards – without actually moving them

Why the Australian Ballet dancers quit stretching. (2019). *Dance Magazine Australia*.

<https://dancemagazine.com.au/2019/09/why-the-australian-ballet-dancers-quit-stretching/>

- The Australian Ballet Company, for example, has shifted away from traditional passive stretching and toward strength-based approaches to flexibility
- Stretching to warm up
- Some athletes stretch to improve performance