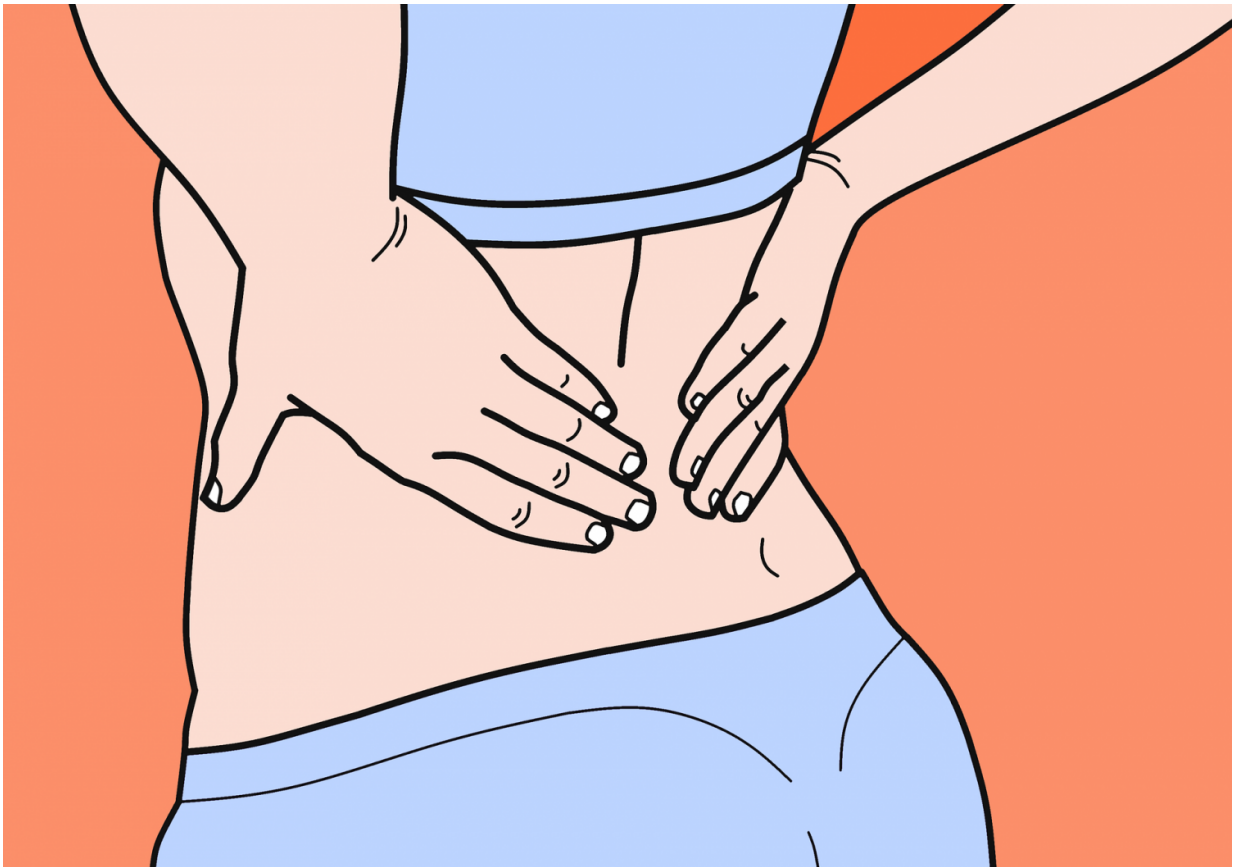


Compounds show promise for inhibiting nerve growth implicated in back pain

June 16 2023, by Scott Schrage



Credit: CC0 Public Domain

The persistence of low-back pain speaks to the difficulty of pulling it out by the roots—especially when those roots take the form of nerve fibers

that worm their way into the disks wedged between vertebrae. Opioids, anti-inflammatories and other existing treatments for back pain often address short-term symptoms rather than that potentially chronic cause, even as they introduce risks of addiction and side effects.

Nebraska's Rebecca Wachs has been investigating how to force the retreat of pain-receptive nerve fibers that encroach into disks of the lower back. Alongside doctoral student Fei San Lee and recent Husker graduate Uyen Nguyen, Wachs recently screened multiple compounds designed to do just that. Their findings are published in *The Journal of Pain*.

The team found two compounds that substantially shortened the length of nerve fibers in cultures of rat-derived cells responsible for carrying [sensory information](#), including pain signals, to the central nervous system. Rats whose disks were injected with the compounds, meanwhile, showed no [weight loss](#) or [behavioral changes](#) that would indicate side effects.

Though the compounds did appear to modify the metabolism of cells derived from human disks, the cells remained viable, a preliminary but heartening sign of their compatibility with the compounds.

Whether the compounds can inhibit or even reverse nerve fiber growth in human disks, and reduce any pain driven by them, remains an open question. But if the compounds continue to show promise in animal trials, they could eventually find their way into [human trials](#)—a major step toward the elusive long-term treatment of low-back pain.

More information: Fei San Lee et al, Evaluation Of Cytocompatibility And Safety Of Nerve Retraction Compounds For Local Disc Denervation To Treat Disc-Associated Low Back Pain, *The Journal of Pain* (2023). [DOI: 10.1016/j.jpain.2023.02.150](https://doi.org/10.1016/j.jpain.2023.02.150).

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