

# Small But Mighty; Tear in Spinal Disc Can Have Major Impact

*Endoscopic Spine Surgeon Dr. Kaixuan Liu with Atlantic Spine Center Offers Tips to Help Keep Neck and Back Healthy*

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/EINPresswire.com/ -- The average [spinal disc](#) in the back or neck may measure only about an inch in diameter and a quarter-inch thick. But if it tears, that disc can have an impact far beyond its size, causing a patient debilitating pain and neurological impairments and even leading to mental disorders like depression, says endoscopic spine surgery expert Kaixuan Liu MD, PhD.

“Most torn discs are the result of a degenerative process that affects the spinal column as people age. This process weakens discs, leaving them at risk of tearing. Typically, by age 30, discs have already started weakening and losing flexibility. As spinal degeneration progresses, even simple traumas like twisting or bending might be all needed to tear a vertebral disc’s outer core,” explains Dr. Liu, founder [Atlantic Spine Center](#).



Dr. Kaixuan Liu

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*Dr. Kaixuan Liu*

His comments follow the recent (2022) online publication of several important National Library of Medicine reports providing the latest information on cervical and spinal disc degeneration, herniation, and tears. One of those summaries ([ncbi.nlm.nih.gov/books/NBK560772/](https://ncbi.nlm.nih.gov/books/NBK560772/)) characterizes disc disease as having immense potential for causing pain and disability that may “yield loss of productive days at work, worsening of roles in personal life, [and] overall poor health from [a forced] more sedentary...lifestyle. Neurologic complications [also] can occur...with loss of lower extremity function and

incontinence.”

Discs are rubbery elliptical pads, which are located between vertebrae in the neck and back and serve as natural shock absorbers that protect the spine from stressors and give it flexibility. Each disc consists of a tough outer shell – the annulus fibrosus – surrounding a soft, gel-like center – nucleus pulposus.

“A combination of aging, genetics, age-related disorders such as osteoarthritis, trauma, and an unhealthy lifestyle can cause cracks to develop in a disc’s annulus,” Dr. Liu states. Most annular fissures are asymptomatic, but as cracks widen or more of them develop, the soft center can fill the cracks and eventually ooze out, sometimes pressing on nerves, narrowing the spinal canal through which nerves exit, and prompting the release of natural inflammatory substances and biochemicals that irritate nerve fibers.

Dr. Liu likens a spinal disc to a jelly-filled donut. “If the donut degenerates – becomes dry and stale, it develops cracks. Some jelly in the center may then seep into one of the fissures and eventually protrude through the outer portion of the donut.”

Symptoms of a torn and herniated disc include intense pain that radiates down a leg or arm, following the pathway of the nerve affected by the deteriorated disc; numbness, burning, and tingling; and muscle spasms and weakness. In extreme cases, the herniation may impact a patient’s bladder and bowel control. The spinal condition also can push patients into depression or other mental disorder.

Authors of a January 2022 article on the National Library of Medicine website ([ncbi.nlm.nih.gov/books/NBK441822/](https://ncbi.nlm.nih.gov/books/NBK441822/)) estimate the incidence of herniated discs being as high as 20 cases per 1,000 adults annually in the United States. Twice the number of men than women experience the problem, which commonly occurs in the third and fifth decades of life, the scientists state. Other experts, though, suggest “most intervertebral disc degenerations are asymptomatic, resulting in difficulty determining [their] true prevalence” ([ncbi.nlm.nih.gov/books/NBK448072/](https://ncbi.nlm.nih.gov/books/NBK448072/)).

Many disc tears and herniations will clear up on their own, Dr. Liu says. But, for patients who develop difficult symptoms, Dr. Liu and his colleagues advise conservative measures first to manage the problem. These can be the use of prescribed or over-the-counter non-steroidal anti-inflammatory medications, physical therapy, and “light aerobic exercises” like swimming, yoga, and walking. Some patients also may require second-line therapies, including pulsed radiofrequency and epidural corticosteroid injections. “Corticosteroids bring pain relief by blocking pain signals coming from irritated nerves and minimizing the body’s natural release of inflammatory biochemicals. But the benefits of the steroids are only temporary; they do not resolve the problem,” Dr. Liu says.

Surgery, like a discectomy or endoscopic discectomy to remove the offending spinal disc material, only becomes an option when all non-surgical approaches have failed, and the patient continues struggling after six weeks to eight weeks of therapy. However, authors of a study of

disc tears and herniations in the lower back (lumbar spine) report in the journal *BMJ Open* (10.1136/bmjopen-2016-012938) that “surgical treatment provided faster relief from back pain symptoms in patients with lumbar disc herniation, but did not show a benefit over conservative treatment in midterm and long-term follow-up.”

Although the impact of genes and aging cannot be prevented, “we can all minimize our risks for disc tear and ruptures by practicing good spinal health,” Dr. Liu states. That means:

- Exercising the body’s core (trunk) muscles, which provide support to the spine.
- Maintaining a height- and age-appropriate weight. Obesity exaggerates the natural curvature of the spine by forcing the pelvis to tilt too far forward, Dr. Liu says. “Extra weight also stresses the spinal joints.”
- Practicing good posture when standing or sitting and limit the amount of time spent seated.
- Following a nutritious diet to keep overall bones healthy.
- Stop smoking. At the 2016 Annual Meeting of the Association of Academic Physiatrists, researchers presented evidence that smoking speeds degenerative disc disease in the neck.

Atlantic Spine Center is a nationally recognized leader for endoscopic spine surgery with several locations in NJ and NYC. [www.atlanticspinecenter.com](http://www.atlanticspinecenter.com)

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