

## Newsweek 4-26-04 The Great Back Debate

**Is massage better for you than surgery? As millions of Americans seek relief from this ancient ailment, doctors are trying simpler, less invasive ways to end the agony**



Lauren Fleishman for Newsweek

Pins and needles: Turned off of costly and unreliable back surgery, back pain sufferers are exploring alternative treatments like massage and acupuncture

**By Claudia Kalb**

Newsweek

April 26 issue - Stop rubbing your sore back for a minute and take a quick tour of Mother Nature's engineering masterpiece: the human spine. Pretend you are Alice, so tiny you can climb among the muscles, nerves, bones and ligaments that make up the very core of your body. Crawl down the 24 vertebrae that encase and protect the spinal cord, from the cervical spine to the thoracic area to the lumbar region, that pesky lower back. Note the 23 rubbery white discs: the cartilage inner tubes that cushion the vertebrae. Observe the dozens of spinal nerves threading out from the cord between the bones. Poke the bands of muscle that wrap and support the bony column. Now focus on the tugs and thuds of daily life. The quick bend when you pick up your sobbing 2-year-old, the pounding of your feet as you run to catch the bus, the steady pull of your untuned belly, the dull pressure as you sit bleary-eyed in front of your computer, the sudden twist of your golf swing. Feel, too, the constant emotional stress we all live with: worries about aging parents, the kids' SAT scores, an IRS audit, mayhem in Iraq. Finally, imagine (or recall) that knife-in-the-back

moment when something suddenly goes wrong with all that gorgeous spinal anatomy: *Owwwwwwww!*

Like an expensive but temperamental sports car, the human spine is beautifully designed and maddeningly unreliable. If you're a living, breathing human being, you have probably suffered the agony of back pain. Eighty percent of Americans will battle the condition at some point in their lives, making it the No. 2 reason for doctor visits (after coughs and other respiratory infections). Already, back-pain sufferers cost this country more than \$100 billion annually in medical bills, disability and lost productivity at work. And as long as we continue to lead overweight, sedentary and stressful lives, that number is unlikely to go anywhere but up.

As it does, legions of new back-pain sufferers, many desperate and even disabled, will seek relief. When they do, they'll quickly discover just how complicated their problem really is, with its mystifying mix of physical symptoms and psychological underpinnings. The reality is that the torment will usually go away on its own—impossible as that may seem when you're writhing on the kitchen floor. But pain is pain, and Americans, especially baby boomers, want a quick fix. The result: spinal-fusion surgery, the most costly (about \$34,000 a pop) and invasive form of therapy, has spiked dramatically—77 percent in the United States between 1996 and 2001. But many of these procedures simply don't work. Doctors, worried that far too many patients seem far too willing to go under the knife, are now actively looking for simpler, more effective ways to treat one of the most vexing problems in medicine. "We've come to the point where we have to think out of the box," says Dr. David Eisenberg, head of Harvard Medical School's Osher Institute, where he is studying nonsurgical alternatives like massage and acupuncture. "The time is now."

Back pain can originate anywhere in the elaborate spinal architecture. Degenerated discs, which may lead to herniation and compressed nerves, are a common problem. Then there are those wrenching spasms provoked by muscle, tendon and ligament injuries, which can drop grown men to the floor. What's most mysterious about back problems is the disconnect between anatomical defects and pain. Unlike blood pressure and cholesterol, which can be easily measured with arm cuffs and blood tests, lower-back pain has no objective way—the volume of tears? the intensity of a grimace?—to be gauged. In many cases, the precise cause of pain remains unknown. Imaging tests have found that two people with herniated discs can lead radically different lives: one spends his days popping painkillers, the other waltzes through life like Fred Astaire. In one well-known study, researchers sent 98 healthy people through an MRI machine: two thirds had abnormal discs even though none complained of pain. In other research, experts compared a group of patients who reported back pain with a control group who

didn't. Close to two thirds of the pain patients had cracks in their discs, so-called high-intensity zones, or HIZs. But so did 24 percent of the noncomplainers. "The real issue," says Dr. Eugene Carragee, the study's lead author and director of Stanford's Orthopaedic Spine Center, "is, why do some people have a mild backache and some have really crippling pain?"

The answer, Carragee and others believe, has as much to do with the mind as it does with the body. In the HIZ study, the best predictor of pain was not how bad the defect looked but the patient's psychological distress. Depression and anxiety have long been linked to pain; a recent Canadian study found that people who suffer from severe depression are four times more likely to develop intense or disabling neck or low-back pain. At the Integrative Care Center of New York's Hospital for Special Surgery, physiatrist Gregory Lutz says he routinely sees men who have two things in common: rip-roaring sciatica and an upcoming wedding date. The problem in their back, possibly a degenerated or herniated disc, probably already existed, says Lutz, but was intensified by the ole premarriage jitters.

In 2001, 250,000 spinal-fusion procedures were performed, most of them to treat disc problems. When they're young and healthy, discs are plump with water, which keeps them hydrated and buoyant—the perfect consistency to work as shock absorbers for the vertebrae. But over time, the daily stress of walking, sitting, twisting and just plain aging dries them out "like grapes that turn into raisins," says Dr. Nick DiNubile, an orthopedic surgeon at the University of Pennsylvania.

As discs deteriorate, their tough outer shell weakens. One swing on the tennis court or even just lifting a briefcase can burst the interior gel through the casing, like jelly squishing out of a doughnut. The result is the infamous herniated disc. Some go unnoticed, but when a disc bulges against one of the two long sciatic nerves, which run from the spinal cord down the leg, the pain can be excruciating. Teri Klein, 45, describes it as going through childbirth "for all three of my kids at once."

Photographer Nancy Newberry vividly remembers the "kunk, kunk, kunk" she heard seven years ago when she slipped on some stairs at the Bronco Bowl arena in Dallas. After two years of persistent pain, she was floored by a searing jolt as she bent over during a photo shoot. She tried painkillers, hot and cold ultrasound therapy, cortisone injections, electrical muscle stimulation and a year of physical therapy. Nothing much helped. Frustrated, cranky and crazy from pain, Newberry reluctantly gave in to surgery. Doctors removed a cracked disc, then fused her vertebrae together with a bone graft. Five years later, the pain is duller but it lingers, and

Newberry still keeps a stash of painkillers in her medicine cabinet. "I'll never be the same as I was," she says.

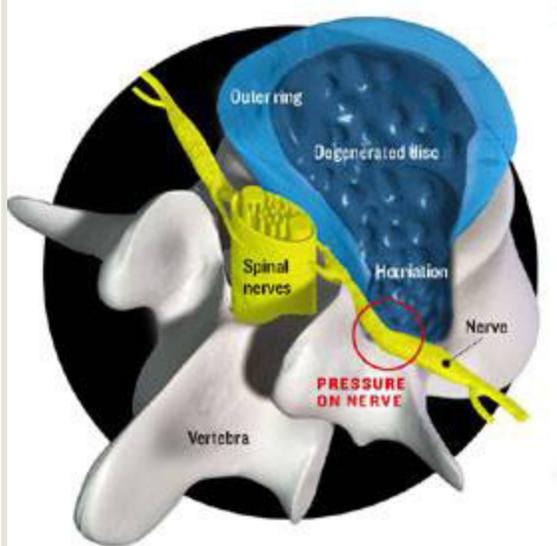
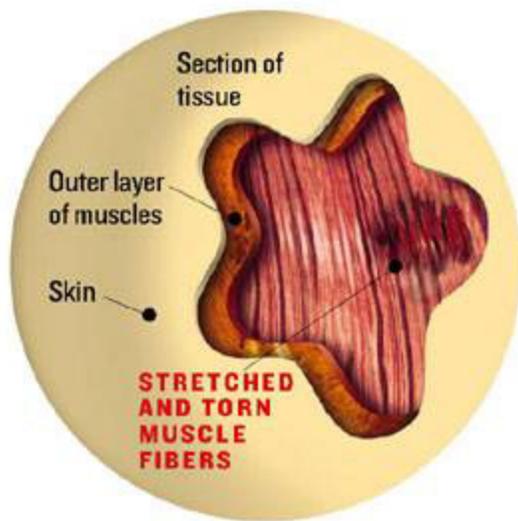


**What happens:**  
Joints or discs weaken and can no longer hold spine segments in place, causing one vertebra to slip over another. Shifted bones push against nerves, causing

pain.

**Who's at risk:** It's more common in women over 55. Kids with spine fractures or bone defects may suffer slippage later in life.





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Graphics by Kevin Hand/Newsweek; Research by Josh Ulick

Fusion surgery was originally designed to treat serious instability or deformity of the spine. Over the past 10 to 15 years, the patient pool has gradually expanded to include more run-of-the-mill disc problems like Newberry's. The increase in all spinal surgery has been prompted in part by technical advances promising better outcomes. Perhaps the most tantalizing new development is the artificial cobalt-chrome disc, which could be FDA-approved as soon as next year. Dr. Jeffrey Goldstein, a spine surgeon at NYU-Hospital for Joint Diseases, has inserted dozens of the implants into patients as part of a nationwide clinical trial. He believes the discs, like knee replacements, will give patients more mobility than traditional fusion. And they'll get out of bed a lot sooner, too. The key, he says, is "to be very specific and

very careful about patient selection. Not everyone who has disc degeneration should have an operation."

Perhaps too many already do, says Dr. Richard Deyo, a professor of medicine and health services at the University of Washington. In a paper published in *The New England Journal of Medicine* in February, Deyo and two colleagues issued a major challenge to the field. They charged that there are insufficient data to justify treating disc degeneration with spinal fusion. They also pointed to confounding issues like the variation in surgery rates nationwide (you're almost five times more likely to undergo an operation in Boise, Idaho, than you are in Manhattan, probably because of community standards of treatment and physician preferences) and complications, such as nerve injuries or infection. And then there's the quirky relationship between a surgeon's handiwork and how a patient actually feels: sometimes a first-rate fusion does little for pain, while a less impressive piece of work does wonders. Deyo's view: back pain "is part of living and being a human being."

For more and more Americans, complementary and alternative therapies are the way to go. Chiropractic treatment, the most popular nonsurgical back therapy, is booming, with 60,000 chiropractors practicing today, a 50 percent increase since 1990. Some happy clients visit their chiropractors more than their barbers. While experts generally agree that the treatment, which involves spinal manipulation and stretching, is safe for the lower back, there's not a lot of data on how effective it is in the long term. "At this point, we don't really know," says Dr. Dan Cherkin of the Center for Health Studies in Seattle, who is now conducting the first large trial of the practice. Of course, in the grip of pain, patients don't necessarily care about data—they just want relief, and a lot of them get it from the "adjustments" chiropractors make to their backs. Massage has seen an increasing number of addicted patients, too, and research shows it can help knead out persistent pain; one study even found that patients took fewer medications during treatment. Steven Smith, a physical therapist at the Schuldt Performance Center in Deerfield, Ill., uses massage on back-pain sufferers to loosen up tight muscles and increase blood flow. It's not exactly a spa-like experience—Smith uses an electrical vibrator to distract patients from the pain of his fingers pushing into their muscles. "You've got to get in there deep to break those spasms," he says. Acupuncture is also popular, though, again, there's a dearth of evidence about its effectiveness. But even conventional doctors say if it makes you feel better, go for it. Dr. Jeffrey Ngeow, an anesthesiologist by training, pushes the tiny needles into patients at New York's Integrative Care Center. He says acupuncture, which seems to stimulate the release of feel-good endorphins, won't provide instant relief, but it will have a cumulative effect. Patients describe a lingering euphoria—a nice state to be in whether you've got a lumbar problem or not.

It was a flood of interest in alternative medicine that prompted the Hospital for Special Surgery to open its complementary-medicine center four years ago. Now about 13,000 patients a year, many with bad backs, see its rehab specialists, massage therapists and chiropractors, as well as taking yoga and tai chi classes and working with personal trainers to help strengthen muscles—any noninvasive approach they can find to relieve the pain. Craig Jordan, 41, is a typical patient. He used to run six miles a day and thought he was man enough to pick up a leather club chair on his own; the gesture herniated two discs. Like so many others in the beleaguered-back population, Jordan tried every wacky thing out there. "Faith healing, hanging from the ceiling, clicking my heels together and wishing I was home—you name it, I've done it." Jordan now gets acupuncture twice a week and shots of anesthesia three times a year to numb the pain. Last week, feeling especially stressed by tax deadlines, he decided to start biofeedback, a technique that trains the mind to believe it can overcome pain. "You never get rid of the pain," says Jordan, though he says his treatments provide some relief. "You learn to live with it."

If a patient's attitude can help process the pain, can more creative thinking among the experts improve the odds of beating it? Harvard's Eisenberg is spearheading an NIH-funded pilot program to find out. Over 18 weeks, a diverse group of 25 specialists who rarely see each other in clinic corridors—orthopedists, neurologists, chiropractors, massage therapists, acupuncturists and others—met to educate one another on how they diagnose and treat back pain. The goal: to see if there is a more efficient, multidisciplinary way to attack the problem—and to make it cost-effective, too. Next month at Boston's Brigham and Women's Hospital, the first patients will meet with one doctor and one complementary-medicine provider, who will then consult with the rest of the team to devise a treatment plan. "From a caring-physician point of view, I really want to know what we can do to treat people better," says Dr. Stephen Lipson, a team member and Harvard spine surgeon.

To the south, in New York City, a lone crusader thinks he has the answer. Dr. John Sarno, an attending physician at NYU Medical Center's Rusk Institute of Rehabilitation Medicine, believes that almost all back pain is rooted in bottled-up emotions. For 30 years, even as high-tech imaging and fancy surgical interventions have made their way into the discs and vertebrae of millions of American backs, Sarno has thrown every ounce of his energy into the inner workings of the mind. In weekly lectures to his patients, Sarno uses a slide show and a pointer to explain how repressed rage—over your parents' divorce, sexual abuse, trouble at work—can stress the body, leading to mild oxygen deprivation, which he says will eventually manifest itself as muscle spasm, nerve dysfunction, numbness and pain. Recovery begins with recognizing the connection between mind and body. Every new patient is required to attend Sarno's

two-hour presentation, and by then most will have read his 183-page book "Healing Back Pain" as well. Alessandro Giangola, 28, says his hourlong office visit with Sarno felt like psychotherapy. The doctor performed some simple tests: running a paper clip up and down Giangola's arm to test sensation, checking his reflexes. "Your health is fine," he told Giangola. Then he began asking questions: How was your childhood? What causes the anger? Patients are assigned "homework," which starts with listing every source of repressed anger in their life. Then every day, in a quiet place, they must meditate for 15 minutes on one item on the list. Tapping into the fury helps alleviate the pain. "Pain is created by the brain to make sure the rage doesn't come out," Sarno tells his patients. "It protects you by giving you something physical to pay attention to instead."

Sarno has published no academic research on his theory and can offer little scientific proof that he's right. But his satisfied patients, who he says number in the thousands, swear by his methods and treat him like some kind of lumbar messiah. Giangola, a tennis instructor and guitar player, has had back pain for 10 years, and yes, he's tried everything, even a vegetarian diet (no real explanation for that one). Several months ago, a friend told him about Sarno's book; Giangola flew through it in two hours. Immediately the pain, which he now believes stems from his parents' divorce, began to lift. "I was floored," he says. Skeptics say that Sarno is offering a placebo, which could miss the true cause of the pain. Giangola says the man "is good for humanity."

After centuries of agony, humanity could certainly use some relief. But more important than the success of any given treatment is the good news that both back-pain sufferers and the medical establishment are embracing bold new ways to think about that most exquisite and frustrating work of art: the spine.

*With Karen Springen, Anne Underwood, Mary Carmichael and Ellise Pierce*  
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