



## Putting Yoga-Related Injury Risks in Context or Yes, I Saw the Article in the New York Times

January 14, 2001

Adapted from the TogetherYoga blog

I received a barrage of emails this week with links to the recent New York Times article, *How Yoga Can Wreck Your Body*. I hate to feed the beast by making it this week's topic, but I can't ignore it. There are simply too many people who were troubled by it and have asked me to respond. To be fair and thorough, this post will look at the article's tone, motivation, structure, and sources. To balance the anecdotal evidence in the story, I will discuss the injury that brought me to yoga and survey some counterexamples from my work as a teacher and therapist.

I apologize in advance for the length of this post: I hope its scope provides enough information to facilitate a more rational evaluation and proactive discussion of risk.

Let me begin by saying that the subject of the article is important—important enough to deserve better treatment than the Times story gave it. Everyone in the yoga community should be thinking about how to identify, assess, and mitigate the risk of injury. This article does its readers a disservice, however, by focusing on old studies and statistics, cherry-picking sources, and relying more heavily on anecdote and opinion

than research. It also does something more insidious—it adopts an alarmist tone to foment controversy that will boost readership and book sales. This specious treatment distorts the perception of risk, polarizes the conversation, and diverts attention away from rational scrutiny.

### A Smoking Strain Wreck

The first thing that struck me about the piece was its negative and sensationalist title. Word choice matters, and wreck is a strong word that implies irreparable damage and catastrophic loss. The title exploits this association to get us to read the article. The title could have been *Yoga May Not Be As Safe As You Think* or (perhaps more accurately) *Old Research and Select Anecdotes Suggest Yoga is Not Perfect*. Those titles would have been more appropriate given the nature of the story, but such measured words would not have sent the article to the top of the Most Emailed list.

It's no accident that the title is both controversial and negative. In the age of digital media, the emphasis on getting an article to "go viral" encourages stories that arouse us through awe, anger, anxiety, fear,

and sadness, the trigger emotions that Wharton researchers identified in a study of the New York Times Most Emailed list. The identification of four negative emotions for arousal (anger, anxiety, fear, sadness) to one positive emotion (awe) speaks to our brain's natural negative bias. This bias is the main reason, according to Psychology Today, that bad news reports outnumber good ones 17-1. Editors who want us to click on an article and share it know that an article that features a warning both arouses our anxiety and spurs us to spread the word. Controversial warnings are even better, since they galvanize people on all sides of the debate, arousing anger, anxiety, and fear. Unfortunatley, this article shows that even the venerable Grey Lady is not above pushing our buttons to boost readership and revenue.

Moreover, this article, which draws on research from forty years ago and statistics that are a decade old was published to promote a book. As the italic text under the web version of the story tells us, it's not an original piece of reporting, but an adaptation from the writer's forthcoming tome, which will be released next month—just enough

### About TogetherYoga

Bodywork therapist, teacher, and yogi Jason Amis founded TogetherYoga to promote peace and wellness through yoga instruction and inspiration. Serving yogis from around the world, TogetherYoga offers group classes, donation-based practices, private yoga, and bodywork by appointment.



lead time to make sure the story circulates around the internet and makes the evening news. I don't mind being marketed to, but I'd rather not be manipulated. In fact, the title of the book, *The Science of Yoga: Risks and Rewards*, makes the author's inquiry sound much more balanced and thorough than the passages adapted for the article. Here, it's as if controversy took precedence over reportage.

Moving from the title to the photograph that accompanied the web edition, I again felt like something was amiss. The clownish depiction of grimacing people doing yoga poses incorrectly makes yoga look absurd and painful. This is not the practice I know, believe in, or teach, and it saddens me that such a derogatory image may cause readers to subconsciously avoid yoga or dismiss it.

The image also subverts the seriousness of the issue. There's nothing funny or clown-like about strokes, nerve damage, and spinal injury. A search of the Times' database revealed that similar stories about the potential dangers of stretching, cycling, and running were accompanied by far more appropriate pictures. I can't help wondering why the Times believes running, cycling, and other forms of exercise deserve more respect than yoga, nor can I fathom how the editors could be so insensitive towards the subject of their own report.

That report is more important than the Times' treatment of it conveys. If people are popping ribs, bulging disks, snapping hamstrings, detaching retinas, and having strokes in yoga classes across the country, then we deserve a thorough exposé. This story shouldn't be in the Times weekend magazine, it should be

front page news. Twenty million people in the United States alone are at risk and India, where yoga is offered through grade school, is almost certainly doomed. If the article's anecdotes and opinions are prescient, then this is nothing short of an international public health crisis.

Or not. The article's dim picture relies on highly selective information. It opens with the author's personal experience of a yoga-related injury and presents a collection of horror stories so sensational that they overshadow the writer's own admission that yoga has many proven benefits and that catastrophic injuries are rare. I recognize that science and statistics can be incomplete or lag behind, and I value individual experience, storytelling, and candor, but the article does readers a disservice to conclude that isolated instances of extreme injury and dramatic anecdotes show that yoga can *wreck* your body. Even if the science isn't perfect, Glenn Black's account of ribs going "pop, pop, pop" in an Indian ashram and his morality tale about an unnamed yoga celebrity destroying her hips instead of tempering her practice should not set the tone for a balanced investigation.

The imbalance continues as the writer spends nine paragraphs discussing the danger and horrible aftermath of yoga-induced stroke but only presents two cases, both of which date to some undisclosed time in the 1970s. After he admits that "these cases may seem exceedingly rare," he cites the US Consumer Product Safety Commissions' (CPSC) statistics to warn that yoga injuries were on the rise as of 2002, but here he doesn't state how many of the injuries in his

CPSC statistics were strokes. Then, when his reference to Columbia's "ambitious worldwide survey" in 2009 turns up only four cases of stroke, he admits the numbers actually aren't "alarming."

### **False Alarm**

If the numbers aren't alarming, why do we feel so alarmed? It must be the article's selective focus. I couldn't help wondering why the author relies exclusively on papers and cases from the 1970s to ground his investigation of the incidence of yoga-induced strokes. Maybe it's because a search of recent research using the terms "yoga" and "stroke" was more likely to turn up studies about how yoga is helpful for lowering blood pressure to reduce the risk of stroke and for rehabilitating patients who have suffered strokes. The author does not give this any mention. I don't mean to gloss over the risk and horror of stroke, but the dangers of extreme neck twisting and hyperflexion are well known. It's important to be aware of them and to modify traditional poses that push the neck too far, but even a superficial survey of recent studies shows the writer is ignoring the larger context of research and overstating his case.

Despite the overwhelming medical evidence that yoga is therapeutic for many ailments, the writer focuses on extreme cases, such as the college student who experienced nerve damage from kneeling "for hours" while chanting for world peace. I admire the devotion to peace, but I don't know anyone who does this, and I certainly don't do this in my classes. I think this is an injury we can all easily avoid. It's so bizarre and remote that I'm not sure why the article mentioned it—except to shock and alarm.

After this, the writer consults experts at Yoga Journal to show that even the most advanced and dedicated yogis can get injured. Unfortunately, after raising the alarm with two accounts of injury, he gives only one paragraph to a teacher advocating injury-prevention and reforms. Devoting three sentences to a useful explanation of how to make poses safer, the writer quickly dismisses modifications because they're "not always the solution." To keep the fear train rolling, he moves on to testimony from a doctor whose personal experience led him to conclude that headstands are too dangerous for general yoga classes. I don't completely disagree, but one doctor's finding is not conclusive. My search of published studies on the National Institute of Health's (NIH) database didn't turn up any research about inversions causing the thoracic outlet syndrome, cervical spine degeneration, or retinal tears that the doctor associates with them.

This brings me to the writer's focus on the subjective experience of Glenn Black, who provides several sensational but nameless gore stories and offers his own experience of spinal stenosis, which he attributes to yoga. Because the writer chose to focus on Glenn's singular experience, instead of reviewing several accounts or surveying the medical literature, we have no way to gauge the causation or correlation between yoga and Glenn's condition. In isolation Glenn's story doesn't tell us very much about injury and risk. To measure risk, we need to know the rate of incidence across a large sample.

If spinal stenosis were a common problem among yoga practitioners, there should be some way to trace it. I couldn't help wondering why the

author didn't just look at research about spinal stenosis and yoga. Perhaps, it's because a search of the NIH database only turns up one result for spinal stenosis and yoga: a clinical practice guideline from the American College of Physicians and the American Pain Society that recommends yoga as a self-care option to treat spinal stenosis. The article probably doesn't mention this because it would balance Glenn's alarming conclusions.

### **Balanced Retorting**

The author doesn't mention a lot of things that might soften the picture and ease our concern. The most glaring omissions involve his selective use of CPSC statistics. After concluding his nine paragraphs on stroke by conceding these "cases may seem exceedingly rare," the writer reignites our alarm by citing CPSC data to show ER visits for yoga injury were "rising quickly." Here, the author is citing the CPSC's National Electronic Injury Surveillance System (NEISS), which aggregates data reported by 100 hospitals across the country. The NEISS, which is available online, files yoga under "exercise without equipment," a category that includes running, jogging, aerobics, and stretching. To show a dramatic increase in yoga injuries, the writer relies on data from 2000-2002, when the injury rate spiked rapidly, jumping from 13 to 20 to 46 injuries per year. Here, the writer is cherry-picking his data: the NEISS provides statistics for the last thirty years, ending with the most recent stats from 2010. The article ominously warns that yoga-related injuries doubled between 2001 and 2002, but it doesn't say what happened after, nor does it give us any information about the injuries

themselves. This is a deliberate omission since the NEISS includes data on everything from diagnosis and treatment to a summary of how each injury occurred. After the nine paragraphs about stroke, the author leaves us with the impression that these injuries are probably horrific and debilitating. But this is just not true.

I looked at the most recent data for yoga-related injuries, just to see what happened between 2002 and 2010. The author is right, the number of yoga injuries has increased, but it did not double again that period. It went from 46 in 2002 to 64 in 2010. That's an increase of almost 40% over eight years, as the number of people practicing yoga climbed about 21%, from 16.5 to 20 million. The increase raises obvious concerns, but the numbers don't paint a complete picture.

There were 6,262 injuries attributed to exercise without equipment in 2010. Of those, 64 were related to yoga, about 1.2%, which means 98.8% of these injuries were not caused by yoga. I'm not a statistician, but I think that means people engaging in fitness activities that involved running, jogging, stretching, and aerobics suffered more injuries than people practicing yoga. In the larger context of exercise-related injuries, the risk of injury in yoga suddenly appears very small.

Still, if the author's subjective sources are right or their experiences are good predictors of yoga's risk, we would expect to see some serious injuries in those statistics. There should be some torn hamstrings, a few strokes, some major trauma, and at least a retinal tear or two.

Not so for the CPSC data in 2010. Of the 64 cases that year, there were 33 strains/sprains, 2 fractures (one

rib, one toe), 7 bruises (including two stubbed toes), 1 sciatic irritation, 1 flare up of hip bursitis, 2 dislocations (one knee, one shoulder), 10 complaints of pain (back pain, chest pain, abdominal pain, and rib pain), and one headache. In addition, one face was cut by a neighboring yogi's errant knee, three people passed out (one of them during a Bikram class), and one yogi fell out of a pose and hit her head. Every single patient was treated and released. No patient was hospitalized for longer care. The complete report is available for download here.

The details put the numbers in perspective and help us assess the extent of the risk. The Times writer could have included the nature of the injuries in the statistics he reported for 2000—2002. He could also have surveyed the most recent data we just examined above. Moreover, he could have broken down the numbers to explore where the injuries took place. While he notes the increase in the number of new teachers and the dangers of their inexperience, he doesn't consider how many of the injuries happened when people were practicing on their own. In 2010, for example, 7 out of the 64 cases happened outside of yoga class—with one patient reporting that he injured himself while practicing what he called “drunk yoga.”

I don't mean to trivialize the risk of injury or discount the pain and cost. The cases I surveyed are only a sample from the 100 hospitals that report to the NEISS. As the writer says, there may be many more that happened too slowly or too long after to discern their true cause. There may also be a host of minor injuries that didn't even make it to the ER. So, we must be aware of the risks. We must listen to our bodies,

understand their limitations, and adapt our practices to protect our health.

### **Moving Right Along**

My training in massage grounds my teaching in the mechanics of anatomy and uses my understanding of how the muscles, tendons, ligaments, and fascia work. I carefully design sequences that warm the muscles and strengthen the core. I work hard to get to know my students by watching their practice progress, and I purposely walk around the room to make adjustments and check technique.

I do my best to promote a safe practice, but I acknowledge that Glenn Black may be right: yoga probably “shouldn't be used for a general class” because large classes are a breeding ground for bad technique. Lost in the crowd, many people let their poses slide to compensate for weak muscles because they feel pressure to “keep up.” Others may push too hard because they want to leapfrog their personal progress. The movements in yoga are so exact in their design that everything matters. Failing to raise the chest strains the shoulders. Letting the arms sag shifts their weight to the wrong spots. Not squaring the hips puts more pressure on the spine.

If I had my way, I would do an hour of private yoga with every student to explain the structure of each sequence and fine tune everyone's technique. Yoga is safe, but it's incredibly precise. Using the correct muscle group for support is critical. Alignment is essential. Everyone deserves a private session to find that perfect balance where the skeleton channels the weight into the bones so the force doesn't put pressure on joints and connective

tissue. The most common injuries in yoga are strains from poor alignment and failure to engage the core. I can slash that risk in an hour of working one-to-one.

And consciously working to improve the practice and reduce the risk is worth it. My personal experience sides with the body of research that suggests yoga helps people more than it harms them, easing orthopedic ills like sciatic pain, rotator cuff tears, osteoporosis, and scoliosis. It may even prevent or reverse hyperkyphosis. Like the studies in these links, I've found that it can help older adults regain their balance. It can reenergize breast cancer survivors. It can help people with osteo-arthritic knees live better lives. It can improve posture and strength, respiration, mood, sleep, and circulation. Moreover, my experience supports research that suggests longtime yoga practitioners have healthier BMIs and less degenerative disc disease than non-yogis. I have seen people slim, heal, straighten, and stay fit.

The prospect that a cynical article in such a reputable paper could convince people to give up yoga out of fear or never try it at all breaks my heart since yoga can do so much good. I started doing yoga ten years ago when a back injury floored me for a week. After a chiropractic treatment and some heavy pain-killers, I was forcing myself to run some errands, using a shopping cart as a walker when I found a three-pack of Brian Kest's power yoga videotapes. I was overweight, solid and strong, but weak in my core when I started. I could carry 90 lbs of concrete lapboard on a job site, but I couldn't hold a downward dog. Yoga was the hardest thing I ever attempted because it showed me that my body was suffering, and it

challenged me to rebuild.

Yoga didn't cure me overnight. It still tweaks my knee from time to time, and it reminds me that I have to actively care for my spine. I don't always go as far or stretch as deeply on both sides. If my right side is tighter than my left, I listen to it. I don't push myself to look like the perfect yogi, nor do I indulge any student who asks me to take him or her over an unsafe edge.

In the end, the risks and rewards of yoga are contingent on the quality of the practice: its mindfulness, its motivations, its devotion to wellness above all else. The Times article doesn't even begin to capture the amazing difference I have seen yoga make in the lives of my students. Just last year, I had a client completely immobilized by a back injury. I carried her up to my studio and worked on her for an hour. She felt so much better afterward that she walked twelve blocks home. The injury didn't disappear, but after

a month of private sessions, she regained enough body awareness and core strength to do an unassisted headstand. Yoga hasn't cured her, but it's helped her live her life.

Likewise, I have an older student who started practicing with me a few years ago, despite suffering from debilitating kyphosis that had left him significantly bent over. Pose by pose, his dedication has made it possible for him to nearly stand up straight today. It didn't happen instantly, and it's not miraculous, but he feels like his practice has improved his range of motion and made his body feel better.

This is the other side of the anecdote coin, a counterbalance to the horror stories in the Times piece. None of this is definitive, but I hope it keeps things in perspective. Maybe yoga can wreck your body, but scores of research, years of individual experience, and continued mobility on the Indian subcontinent suggest it probably won't.

## Join the dialogue online!

Offered in a spirit of sharing, the TogetherYoga blog explores yoga-related topics on everything from philosophy and technique to mindfulness and meditation.

Written to provide a forum for meaningful exchange, new posts are available weekly at [www.togetheryoga.net](http://www.togetheryoga.net). Please feel free to stop by and share your thoughts. Your comments, reflections, and inquiries are always very welcome.

Namaste. 

