

## Does Yoga Kill?

*Yoga, Truthiness and the New York Times*

by **Timothy McCall, M.D.**

In the little over one year that New York Times science reporter William Broad has been covering yoga, he has dropped one bombshell after another: Yoga could make you fat, the entire discipline started as a sex cult, and, of course, the claim that garnered worldwide publicity — practicing yoga is dangerous to life and limb. Most shocking of all, his 2012 book [The Science of Yoga](#) tied yoga to hundreds of strokes per year. His "lowball estimate" was that 15 yoga practitioners annually in the United States "lay dead after wounds to their vertebral arteries resulted in brain injuries serious enough to kill."

In my recent article, [Man Bites Downward-Facing Dog](#), I documented Broad's disturbing pattern of sensationalistic reporting. Again and again he has made bold, counterintuitive assertions about yoga, which have succeeded in bringing attention to himself and his book, but which, as I demonstrated, fail to hold up under scientific scrutiny. Unexpected for a science writer of his stature (he's shared in two Pulitzer Prizes), no extraordinary evidence backs his extraordinary claims. And that holds especially true for his claim that yoga causes deadly strokes — the emotional linchpin of his yoga-wrecks-your-body arguments.

Broad labeled a number of poses "X-rated," including Shoulderstand, Plow, Cobra and Wheel. The extreme neck positions in these postures, he warned, could stretch and potentially rupture the vertebral arteries, linguini-like blood vessels that run along the spinal bones in the neck. Strokes due to vertebral artery tears are uncommon, but are known to occur, for example, when an elderly woman drops her head back into a hairdresser's sink for a shampoo. Broad cited an estimate that among the general public there are 1.5 such strokes per year per 100,000 people.

Since, as Broad admitted, no scientific studies have ever examined the question of how common such yoga-induced strokes are, he got creative. First off, he assumed — without evidence — that yoga practitioners would have the same 1.5 per 100,000 rate of vertebral artery injuries as the general population (while suggesting the likelihood of a higher rate due to all the neck movements). With



20 million practitioners in the U.S., that's 300 strokes per year. Assuming a five percent mortality rate, he calculated the yearly death toll would be 15. But if yoga practitioners have the same stroke rate as people who don't do yoga that means on net yoga caused *zero* strokes. Using the logic Broad employed, if there are 16,000 cases of food poisoning per 100,000 people, every year yoga is tied to 320,000 episodes of the dreaded and potentially deadly intestinal malady.

### **The Smoking Gun**

In pursuing the yoga-stroke connection, Broad seemed to have found his smoking gun in 2009. "Now a major survey done by yoga professionals had documented the threat," he wrote. "The respondents said they had witnessed four cases, in other words, they knew of four occasions in which yoga's extreme bending and contortions had resulted in some degree of brain damage." But [the scientific article](#) reporting the survey's results, published in the *International Journal of Yoga Therapy*, tells a different story. The authors, a team based at New York's Columbia College of Physicians and Surgeons, confessed that they, "neglected, however, to remind the respondents that answers should be based on injuries resulting from yoga practice. Instead, many answers described serious injuries or chronic conditions that prompted people to take yoga. Often it was unclear whether injuries cited had resulted from Yoga or from some other source."

To resolve the ambiguity, my colleague Roger Cole, Ph.D., contacted study co-author Susan Genis, RYT, Esq., who did the data analysis. Here's how she responded: "William Broad misstates the information we presented. None of the survey responses gave a specific instance of having experienced or having seen a student experience a stroke as a result of yoga practice."

### **The Yogi's Quest for Truth**

While continuing to trumpet the dangers of yoga, Broad appears to have resigned himself to a less-than-enthusiastic reception to his work from many in the yoga world. "Some yoga practitioners will surely see my analysis as unconvincing. That's okay," he wrote in a recent Times article that asserted that yoga is "remarkably dangerous — for men."

One of the foundations of the serious practice of yoga — and by this I mean much more than just the physical postures which are Broad's main focus — is *satya*, Sanskrit for truth. Serious yogis try to cut through illusions, and seek to know, as they call it, "what is," even when digesting that truth is painful. While they don't always succeed, and are subject to the same foibles as everyone else, they take



seriously the quest to see reality clearly. That is why, in part due to Broad's work, the yoga world is by and large [welcoming the discussion](#) about how the practice can be done more safely.\* The other reason, of course, is that *ahimsa*, non-harming, sits alongside *satya* as the foundation of the entire practice.

Dedicated yogis recognize that, despite Broad's own yoga practice and all the research he did for the book — and the many parts of the story he gets right — there remain gaps in his understanding. What galls many of them is that he makes assertions like his stroke claims that are just plain wrong with the zeal of a cub reporter exposing vicious corporate malfeasance, all under the imprimatur of the *New York Times* and with the added heft of the oft-mentioned Pulitzer Prizes. Not all yogis understand the weakness of the scientific support for some of his claims, but they know in their gut when they hear something about the field they've dedicated their lives to that isn't true to their experience.

### **Engaging Truth**

The conflict between *satya* and a good read appears to be at the root of Broad's credibility problem. If a writer wanted to create an attention-getting story on yoga injuries, in addition to exaggerating the problem and including a few heart-rending stories, it would be best to pretend that no one was talking about it. Broad quoted an Indian swami, dead for almost 20 years and largely unknown in the U.S., who once said that yoga is as safe as mother's milk — as if among modern teachers this were the party line. If the incidence of injuries is undramatically low, the engaging writer should avoid comparisons to similar activities. Only after being criticized for the latter did Broad recently acknowledge that [the injury rate is higher for golf](#).

But yoga injuries are *qualitatively* different he warned, and for that argument, he once again trotted out the stroke risk. To bolster his case, he listed several people whose deaths might have been caused by yoga including this one: "In Los Angeles in 2004, Sita White, 43, a British heiress and a favorite of gossip columnists, collapsed and died in a yoga class. The question is why." What Broad neglected to mention is that she wasn't doing yoga at the time. According to eyewitnesses and media reports, White collapsed and died while students were filing in and putting down their mats.

Had Sita White died 15 minutes later, presumably Broad would have detailed just how yoga had done her in. This is one of the risks of relying on anecdotal data: it's easy to confuse a temporal association with causation. Of note, the few stroke cases he described in his book spanned more than 30 years. One suspects he



needed to go that far back because there weren't that many good stories to choose from.

## **Does Yoga Actually Decrease the Risk of Strokes?**

One possibility that Broad never considered is that practicing yoga might actually *decrease* the rate of vertebral artery strokes. [Research](#) has documented that people with tight muscles are more likely to have inflexible arteries. Thus, ironically, regularly practicing the very poses he deemed verboten like Cobra and Shoulderstand — [if they are done appropriately](#) — might *reduce* the risk of vertebral artery strokes by gradually increasing the pliability of these blood vessels, making them more resistant to tearing with sudden movement or accidental impact.

The bigger picture is that vertebral artery strokes make up less than one percent of all strokes. Practicing yoga — via such documented benefits as improving blood pressure, reducing stress hormone and cholesterol levels, damping inflammation and thinning the blood — likely reduces the overall incidence of all kinds of strokes, as well as heart attacks and a host of other conditions.

Comedian Stephen Colbert famously coined the term truthiness to describe the work of politicians and journalists who cherry-pick, massage, and selectively report information to fit the narrative they're crafting. The truth, on the other hand, is often complicated, nuanced, and doesn't always make a great story. And it is precisely that *satya* — subtle, interpenetrating, endlessly unfolding — that yogis are after.



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\*To further the discussion of this topic, Yoga U, an online educational resource, will broadcast free of charge from April 10-14, 2013 a [telesummit on yoga injuries](#), featuring Timothy McCall, Judith Hanson Lasater, Loren Fishman, Roger Cole, Julie Gudmestad, Leslie Kaminoff and other leading yoga teachers.