Is Alternate Nostril Breathing Really Just a Placebo?

A Response to The Atlantic

by Timothy McCall, M.D.

As many of you have heard, presidential candidate Hillary Clinton used yogic alternate nostril breathing to help get over her electoral defeat. She’s been singing the praises of the ancient pranayama technique in her bestseller What Happened as well as on CNN. This caught the attention of James Hamblin, MD, a senior editor at the venerable magazine The Atlantic.

In his article, “How Alternate-Nostril Breathing Works,” Dr. Hamblin sets the tone early: “When I came to the part in Hillary Clinton’s new book where she describes how she treated her anxiety with a practice called alternate-nostril breathing, I thought, that sounds impossible. I tried breathing through only one nostril at a time. I couldn’t do it."

“Then I read a little further and saw that she recommends using her fingers to cover one nostril. Got it. Okay, that makes it much easier.”

Later Hamblin wonders why the practice could possibly be calming? “Inducing partial suffocation,” he writes, “isn’t the most intuitive anti-anxiety ritual.”

What Hamblin proves with this last piece of snark is that he actually knows next to nothing about the subject he is addressing. If you are practicing pranayama and are feeling short of breath, you are doing it incorrectly. That’s why yogis recommend—even more than for other practices—that you learn pranayama directly from a teacher. That’s especially true if breath holding is involved as Clinton, probably unwisely, recommended (the practice is usually contraindicated in people with heart disease, asthma, etc.).

Of course, knowing little or nothing about the subject rarely stops some physicians and skeptics from dissing a wide variety of holistic health measures from yoga to acupuncture. Even well-meaning doctors are sometimes quoted in the press saying things like they are not surprised that some study found yoga effective because exercise is good for you, as if that were the total explanation.
Dr. Hamblin is willing to dismiss the various “studies” (in scare quotes to emphasize their dubious nature) in support of alternate nostril breathing. He rejects the scientific research cited by CNN because the studies mostly had small numbers of participants and were published in journals like the *International Journal of Yoga*, which “conceivably has some degree of pro-yoga bias.”

But what Hamblin most effectively uses to skewer alternate nostril breathing is a quotation from Clinton’s book: “The way it’s been explained to me,” she wrote, “this allows oxygen to activate both the right side of the brain—which is the source of your creativity and imagination—and the left side—which controls reason and logic.”

Hamblin gleefully responds that given the stress she was under when she wrote the book: “She has more pressing concerns than considering how inhaled air goes down into the lungs, where oxygen is transferred to capillaries filled with blood that then go to the heart. The heart has a single left ventricle, and it shoots blood up to the head, oxygenating the brain’s hemispheres with the same blood.”

And, of course, in this regard, the good doctor is absolutely correct. The explanation Clinton gave, that she more than likely got from a yoga teacher, is not quite right. And probably that teacher heard it from his or her teacher and passed it on with the best of intentions.

There is, in fact, research that suggests that breathing through the left nostril preferentially stimulates the right hemisphere of the brain, and vice versa. This and another study by the same author, David Shannahoff-Khalsa of the University of California- San Diego’s Center for Integrative Medicine, elaborate
on the link between hemisphere dominance and the breath cycle, which flips between dominance by the right and left nostrils several times per day. Both were published in The International Journal of Neuroscience, which admittedly could have a pro-neuroscience bias. It is also known that right nostril breathing stimulates the sympathetic nervous system’s (SNS) fight or flight response. Left nostril breathing has similarly been linked to the parasympathetic nervous system’s (PNS) “rest and digest” response. Alternate nostril breathing could thus help balance these two branches of the autonomic nervous system, potentially helping a condition like anxiety typically associated with dominance of the SNS over the PNS.

Like Hamblin, New York Times science writer William Broad, in his infamous book The Science of Yoga—in which he among other things asserted that yoga started as a sex cult, could make you fat, and results in hundreds of strokes and many deaths per year—seems to attack the dumbest things he could find that anyone has said about the practice. In suggesting that the profession has turned a blind eye to yoga injuries, Broad quoted one Indian guru that most western yogis have never heard of who said that yoga is as safe as mother’s milk as if that were the party line. Despite all the book’s shortcomings, Broad correctly pointed out, for example, that Kapalabhati breathing does not increase the oxygen levels in the brain. I’ve personally heard that canard several times over the years in yoga classes.

Or consider the commonly-invoked explanation that yoga shoulderstands can improve thyroid function by increasing blood flow to the gland. As far as I know there is not a lick of scientific support for this notion. Having been in an O.R. and seen a scalpel cut into the thyroid, it’s hard for me to imagine an organ with a better blood supply even without going upside down.

What is known is that the yoga tradition tells us that shoulderstand can help the gland’s functioning as, for example, in the case of hypothyroidism. But there seems to be a strong temptation among teachers to not want to depend on the tradition alone but to dress up their claims in science-y language. And that is precisely what opens the door to science writers like Broad and Hamblin—looking for a click-worthy, man-bites-dog hot take—to spread misinformation about yoga in influential places like The Atlantic and The New York Times.

Here’s my suggestion: If you are a yoga teacher and are not that well-schooled in science, tread carefully. Realize that the people who taught you may also have not understood physiology or medicine that well. Be careful when propagating
scientific-sounding information that may not be accurate. For some scientifically-minded students, a single bogus claim could lower their opinion of you and maybe of yoga itself.

If you have read research on yoga that had an interesting result you want to discuss with your students, by all means do so. If possible, also mention where and when the study was published. If all you did was read a news story about it, say that.

Acknowledge your sources, whether a claim comes from the yoga tradition, your teacher, or is the fruit of your own personal yoga practice or teaching. It may not sound as impressive as invoking science, but it’s a lot less likely to get turned on you or on the ancient practice you love by a skeptical journalist or scientist in your midst.

And for the record, the yoga tradition, my teachers, my own direct experience as a long-time practitioner and yoga therapist—and a growing body of scientific research—suggest that alternate nostril breathing can be a most valuable tool for improving health and well-being. I do it every day.

This article appeared originally on the Yoga Dork blog.

Timothy McCall, MD is a board-certified internist, Yoga Journal's medical editor since 2002 and the author of the bestselling Yoga as Medicine (Bantam). He co-edited the 2016 medical textbook, The Principles and Practice of Yoga in Health Care (Hanspring Publishing). He practiced medicine for more than 10 years in the Boston area before devoting himself full-time to investigating, practicing, writing about and teaching yoga therapy. He is the founder and director of Yoga As Medicine Seminars and Teacher Trainings, teaching and lecturing worldwide. He lives in Burlington, VT and can be found online at DrMcCall.com