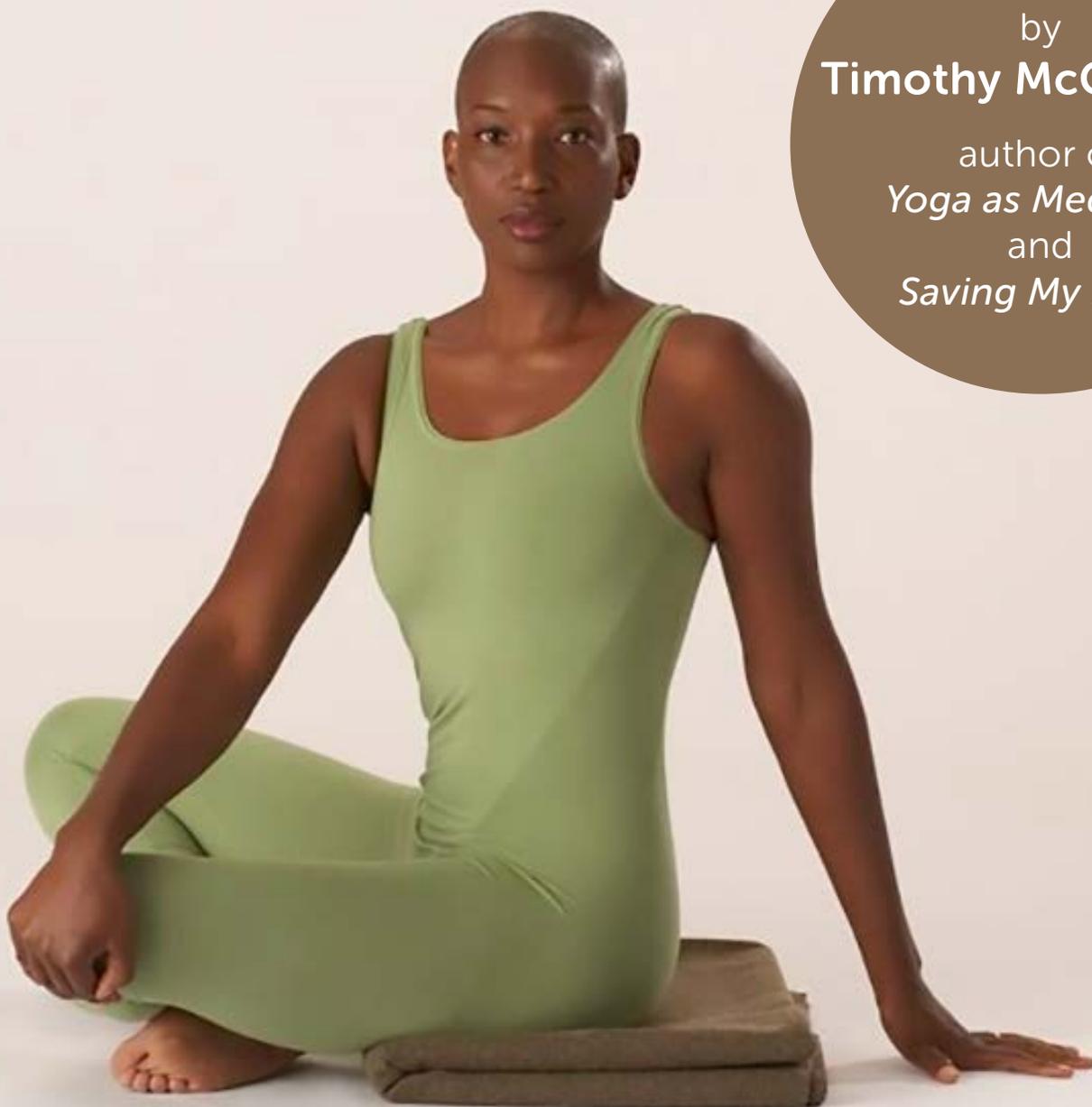


# 50 WAYS TO HEAL A YOGI

...and other favorite *Yoga Journal* articles

by  
**Timothy McCall, MD**

author of  
*Yoga as Medicine*  
and  
*Saving My Neck*



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...and other favorite *Yoga Journal* articles

**Timothy McCall, MD**



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# Introduction

In 2002, shortly after I'd submitted my first article to *Yoga Journal*, I was asked to become the magazine's medical editor. I guess they liked it! That article, the first one in this volume, described my first fact-finding mission to India, in which I tried to reconcile what I was learning about yoga with the medical science I'd studied in medical school and my years of practicing internal medicine. I've continued my explorations into yoga and science, though writing books and teaching workshops keeps me busy; I rarely appear in the magazine anymore.

One exception is when *Yoga Journal* ran an excerpt of my latest book, *Saving My Neck: A Doctor's East/West Journey Through Cancer*, in their December 2018 issue. That excerpt was based on an early version of the manuscript, so differs from the final book in some ways. You can read that excerpt [here](#), though, I'd encourage you to read the book for the full story.

What follows are a number of my favorite articles published in the magazine, and a few more that I wrote as blog posts for *Yoga Journal's* web site. Those blog posts were written specifically for yoga teachers wanting to get better at their craft, whereas the other articles in this collection were aimed at the broader yoga audience. Those blog posts were written specifically for yoga teachers wanting to get better at their craft, whereas the other articles in this collection were aimed at the broader yoga audience. In some instances, different versions appear in this volume than what *Yoga Journal* published. One corrects a couple of errors that were introduced during the editing process (that I unfortunately did not get to see before the article was published). A couple of others are versions I submitted that I still prefer to what eventually got printed.

I hope you enjoy this collection, and find it useful!

Namaste,

A handwritten signature in brown ink that reads "Timothy". The signature is stylized with a long horizontal stroke at the top and a large, sweeping flourish at the end.

Timothy

Burlington, Vermont May, 2019

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## ONE

### Western Science vs. Eastern Wisdom

*Some of the most extensive medical research on yoga therapy is being done in India, but will it ever be accepted by Western medicine?*

It's 7:30 a.m. at the Vivekananda ashram—Prashanti Kuteeram, or “the abode of peace”—situated on a bucolic hundred acres outside the city of Bangalore, India. The third “Om” from the crowd assembled for morning Bhagavad Gita chanting is starting to fade when a familiar melody rises from the front row: the synthesized ditty that plays every time the Windows operating system starts up. It's the same sound I hear every morning back in Boston. An assistant has turned on the guru's laptop, which holds the slide show that will guide us karaoke-style through this morning's verses.

We've been up since 4:30, awakened as usual by the bell that clangs in the central courtyard of the Arogya Dharma (“health home”). Prayer and Om meditation started at 5:00 a.m., followed by asana class. The schedule is jam-packed till almost 10:00 p.m., when “Happy Assembly” ends, followed by lights out. Cross-legged on a thin straw mat that digs into my ankles, I sit with dozens of people (mostly Indians and Indian expatriates) with such ailments as asthma, arthritis, heart disease, and mental illness. As an American physician—conventionally trained in internal medicine—as well as a serious yoga student,

I am here to learn how to reconcile these two parts of my existence. Over the years, I've heard dozens of stories from people who have successfully employed various types of yoga to deal with a wide range of problems, from menstrual cramps to fallen arches. In my medical training, however, I was taught to be suspicious of such anecdotal evidence. More recently, I've worked with my teacher, Patricia Walden, using yoga to treat people with such maladies as depression, breast cancer, and Parkinson's disease. Although we didn't study it empirically, my clinical impression is that these students benefitted enormously. While no doctor could make it through morning rounds without relying on his or her clinical judgment, that concept, too, is considered scientifically suspect by the medical powers-that-be.

Although there are dozens of scientific studies that have found yoga to be an effective treatment for a variety of medical problems from heart disease to carpal tunnel syndrome, most of this work is unknown to the average physician. While a few of these studies, mostly those which are conducted in the West, have gotten media attention here, the overwhelming majority of the scientific research into yoga happens in India. Most of this research is difficult or impossible to get a hold of in this country, which is part of the reason that most Western physicians (and most Western yogis) have never heard about it. And no one does more yoga research than the Swami Vivekananda Yoga Anusandhana Samsthana (SVYASA).

Reconciling the old and new ways of knowing—the sacred, ancient teachings of yoga and the technology of modern science—is very much the key mission of SVYASA. The research foundation uses scientific tools to investigate the teachings of the Vedas and Patanjali and correlate them with current understanding of anatomy, physiology, and disease. Sitting in her office next to one of the research labs, Shirley Telles, an Indian physician, a Fulbright scholar, and assistant director of research at SVYASA, describes their projects in an accent that reveals traces of her years of schooling in Britain. The major areas of investigation, she explains, are six-fold: (1) the effect of various yoga practices on physiological variables, e.g., how right-nostril breathing affects the metabolic rate; (2) yoga in rehabilitation; (3) the impact of yoga on perceptual and motor skills; (4) yoga in occupational settings, for example, to prevent accidents due to monotony in railroad engineers; (5) yoga therapy in the treatment of various diseases; and (6) physiological correlates of higher states of consciousness.

Many of the projects are carried out in the research laboratories at Prashanti—the shorthand everyone uses for the ashram—or in conjunction with the local hospitals. Several of the investigations take place at or may be cosponsored by the country’s most respected scientific establishments, including the All-India Institute of Medical Sciences (AIIMS) in New Delhi and the National Institute for Mental Health and Neuro Sciences (NIMHANS) in nearby Bangalore. The research staff at SVYASA includes 14 doctoral students whose projects involve yoga, with more doctoral students (from a new extension of the Hindu University of America) slated to join them.



One three-year SVYASA project now underway is examining the effectiveness of a comprehensive yoga program on women with Stage II and III breast cancer. Funded by the Indian government, researchers seek to enroll 200 women randomized on the day of their diagnosis to receive either the standard therapy (surgery, radiation, and chemotherapy) or the standard therapy plus yoga. Raghavendra Rao, Ph.D., who conducted the study, hopes to determine whether yoga can help reduce side effects of chemo and X-ray therapy, bring about favorable changes in the women’s immune systems, and improve quality of life. The women will be monitored by measuring symptoms and psychological well-being, as well as with sophisticated assays of immune function—levels of various serum immunoglobulins, plasma cytokines, and lymphocyte subsets, including the helper and suppressor T-cells and Natural Killer (NK) cells.

After meeting with with Dr. Rao at the Vivekananda city office in Bangalore, I rode on the back of his motorized “two wheeler” through the city, diesel-spewing autorickshaws buzzing around us, as he took me on a tour of the various hospitals where research is being conducted. At the cavernous M.S. Ramaiah Medical Teaching Hospital, we met

S. Chandrashekar, M.D., D.M., head of the department of Clinical Immunology, who is conducting a three-year, randomized experiment that is comparing yoga to standard physical therapy in the treatment of rheumatoid arthritis. He is particularly interested in the “immune modulating” effects of yoga on this often debilitating autoimmune disease. Chandrashekar himself claims little knowledge of yoga but decided to conduct the experiment, he says, after noticing that “my patients who had taken up asana and pranayama were doing better.” Results are expected in mid-2003.

On another day I visited the sprawling campus of NIMHANS where several yoga studies are currently being conducted. Bindu M. Kutty, Ph.D., is evaluating seasoned yoga practitioners using a Western-style sleep laboratory, where subjects are monitored via a video hookup and by continuous electroencephalogram (EEG) output displayed on a bank of color monitors in the lab. NIMHANS researchers also conduct experiments in conjunction with the “Art of Living” ashram, located on the outskirts of Bangalore. The community, led by the charismatic Sri Sri Ravi Shankar, promotes the healing benefits of a rapid yogic breathing technique they call Sudarshan Kriya Yoga (SKY). One particular researcher at NIMHANS, A. Vedamurthachar, Ph.D., himself a disciple of Shankar, has just completed a study showing that the technique helps facilitate recovery from alcoholism, a growing problem in India. Alcoholics who used SKY were found to have less anxiety and depression and lower levels of the stress hormones ACTH and cortisol.

Throughout India research is ongoing. In New Delhi, Ramesh Bijlani, M.D., head of the Department of Physiology at AIIMS, is currently involved in two projects on yoga, one of them on the insulin-releasing effects, if any, of selected asanas. The second is a randomized, controlled trial on the efficacy of yoga in the management of bronchial asthma. At Malar Hospital in Chennai (Madras), Kousalya V. Nathan, a naturopathic scientist, has just completed a pilot project investigating the use of various yoga techniques (breathing, meditation, and relaxation) in people who have recently had open-heart surgery. Her subjects had fewer than average post-operative complications and less need for pain medications—and were discharged on average two days earlier from the hospital.

In Delhi, at the Defence [sic] Institute of Physiology and Allied Sciences, chief scientist W. Selvamurthy has enrolled over 500 patients in a lifestyle intervention program for heart disease involving walking, a low-fat, high-fiber diet, and yogic meditation. The two-

year study is nearing completion, and while the data are not fully collected and analyzed, he reports “encouraging results.” A smaller, one-year study is currently underway at the Yoga Institute to assess the effects of a yogic lifestyle and various yogic techniques on the regression of coronary heart disease.

The methodology of older Indian studies has been criticized, but contemporary researchers are getting much more sophisticated. Control groups, randomization of subjects, and other hallmarks of Western investigative science have become standard. Telles, who herself is critical of older Indian research, says she is “very pleased” with the quality of the design of recent studies. The research in India is also qualitatively different from that in the West. They are not just studying 12 asanas for the relief of sciatica. Telles is particularly keen on projects attempting to correlate direct prescriptions from ancient texts with modern scientific understanding. “If hatha yoga texts call for 27 rounds of a particular practice four times a day and describe the effects,” explains Telles, “we try to test it in just that manner.”

### **A Different Take on Research**

Many centers I visited that were most active in doing yoga therapy seemed to have different attitudes about what constitutes research than Western scientists (or their colleagues at Vivekananda). At the Krishnamacharya Yoga Mandiram, in Chennai (Madras), they do “subjective research based on work with individuals,” this according to Kausthub Desikachar, Krishnamacharya’s grandson and now the organization’s executive trustee. He says, “Each time the student meets the teacher, the impact of the practice is evaluated and refined. This data is then compiled into our central database, which we use to analyze the impact of yoga in different cases.” At a two-week yoga therapy conference I attended in Chennai, KYM teachers presented a procession of students with every conceivable malady who told impressive stories and demonstrated their programs—not data from studies—to validate the work.

At the Iyengar Institute in Pune, there seemed to be little interest in doing scientific experiments on their own work—which is odd, given the number of Western studies that involve Iyengar Yoga. When I asked Geeta Iyengar, the daughter of B.K.S. Iyengar and now the principal teacher at his Institute, about research, her replies consistently used the word in the sense of figuring out how to help an individual student through experimentation.

Across the city at the Sun-Jeevan Yoga Darshan, aka Kabir Baug, a yoga therapy hospital that is run by a family physician and former disciple of B.K.S. Iyengar, S.V. Karandikar, the major focus is on treating some 800 patients who come for yoga therapy every week and on training therapists who'll work in rural areas where Western-style medical care is usually not an option. Although Karandikar, who also now calls himself Acharya Yoganand, has not conducted research in the usual sense, what he has done is amass case histories—more than 15,000 of them. And these are not just testimonials; whenever possible, he uses diagnostic tests (such as before-and-after X-rays) to document treatment effects.

Everywhere I went I heard stories. A Catholic nun at Prashanti told me how yoga had helped her recover completely from rheumatoid arthritis. At the plush Art of Living ashram, a gaggle of young, white-robed devotees gathered around to detail how they had used yoga to recover from asthma, ulcers, and sinus problems. At A.G. Mohan's center outside Chennai, a woman with residual left-leg problems and chest asymmetry from childhood polio said the practice had led to “fantastic changes in my body.” At the Yoga Institute in suburban Mumbai (Bombay), a businessman spoke of anxiety that hadn't responded to medication or counseling but which was now much better thanks to yoga. Over the course of a month at the Iyengar Institute, I watched the still-vigorous 83-year-old guru teach a woman to undo a restriction in chest movement she'd developed after having metal wires implanted in her sternum during surgery at age 3 for a congenital heart disorder. She felt he had changed her life.

As a Western scientist, I know that I am not supposed to place too much weight on case histories; we were taught in medical school that so-called “anecdotal evidence” is notoriously unreliable and subject to false attributions, distorted memory, selection of only favorable cases, and deliberate manipulation. That is why scientists demand controlled studies. However, to paraphrase Thoreau, some anecdotal evidence is very strong, as when you find a trout in your milk.

At Kabir Baug, one of Karandikar's current assistants, Anagha Bhide, had such an enormous spondylolisthesis—a roughly two-inch step-off between her lowest lumbar vertebra and the sacrum—that she could not control her legs and required a wheelchair. Using a system of lumbar traction involving belts attached to the wall and other techniques the doctor developed, she slowly recovered. One year later her X-ray had improved

substantially. Two years later, it showed that her vertebrae were perfectly aligned. It also turns out that virtually every one of the 150 teachers at Kabir Baug—who all volunteer their services—is, like Bhide, a former patient. This evidence may be anecdotal, but it's hard to ignore.

## **A New Approach**

Traveling from institution to institution, I was amazed at the enormous difference in their therapeutic approaches. Some teachings seem to directly contradict what is taught elsewhere. Desikachar, for example, says that Headstand (Sirsasana) is an unsafe pose for most students. Almost no one at KYM is taught it, while at the Iyengar Institute students in general classes may hold the pose for 10 minutes. Still, it was my distinct impression that nearly every method I saw was helping people.

SVYASA utilizes a system called the Integrated Approach of Yoga Therapy, which includes asana, chanting, kriya (yogic cleansing techniques), meditation, pranayama, lectures on yoga philosophy, and a variety of other elements. This system has been shown in dozens of studies to benefit people with such conditions as asthma, mental retardation, rheumatoid arthritis, and Type 2 diabetes, and it has improved visual perception, manual dexterity, and spatial memory.

At the Yoga Institute, Director Jayadeva Yogendra, Ph.D., says they don't even like to call what they do "yoga therapy," even though they teach courses aimed at diabetics, heart disease patients, people seeking relief from stress, and more. Yoga philosophy appears to play a big part of their program. All the asana, pranayama, and other techniques that they teach were simplified by founder Shri Yogendra (Jayadeva's father) to make them easier for the local "householders" who are the Institute's primary clientele.

At the KYM, as well as with the similar approach taught by A.G. Mohan (himself a longtime student of Krishnamacharya), instruction is always one-on-one; no two students will get the same program. And the asanas are much gentler than in most systems, with full attention placed on the breath as you move repeatedly in and out of the poses. Movement is sometimes coordinated with chanting or recitation of a mantra.

While medical classes at the Iyengar Institute and Kabir Baug differed from each other, in both places they appeared to be a hybrid of yoga and physical therapy with students doing

exercises using all kinds of belts and ropes, blankets, pillows and other props. Neither system uses any kriya or meditation and the Iyengars only recently added pranayama to medical classes. At Kabir Baug, each student's regimen is personalized by Dr. Karandikar after an interview, examination and his review of the results of blood tests and X-rays. At the Iyengar Institute, the personalization of therapeutic asana was so precise that it could be hard to fathom. A dozen students might be in supported Setu Bandha Sarvangasana (Bridge Pose) for a variety of conditions, yet no two appeared to have the same constellation of bolsters, blankets and blocks propping them up.

## **The Limits of Science**

The enormous variety of approaches gives students a lot of choice, but it is enough to drive a Western scientist crazy. With dozens of major styles of yoga, hundreds of individual practices (asana and asana sequences, pranayama techniques, kriyas, etc.), and the variations on these techniques used with individual students and in different systems, there are simply more combinations of possible treatments than it will ever be possible to sort out experimentally.

Because of this incredible complexity, in order to do studies, scientists need to simplify. One technique that they rely on is the standardized protocol. Everyone in the experimental group gets exactly the same dose of Prilosec for their ulcer or exactly the same 11 asanas for their carpal tunnel syndrome. That way, if researchers find a significant difference between the experimental group and the control group, they can be reasonably certain the effect was due to the experimental intervention.

The problem here is that the whole concept of a standardized protocol bumps up against a core principle of therapeutic yoga. Most of the experienced therapists I have observed insist there can be no standardized anything, for each student is unique. Different bodies and minds, with different abilities and weaknesses, require individualized approaches. Geeta Iyengar says that even something that might have worked with a student one day may not work with the same person the next. If the student has just strained her back or had a particularly stressful day at work, the entire program may need to be changed on the fly. Desikachar is so opposed to one-size-fits-all approaches he says that he now regrets including pictures of asana in his book *The Heart of Yoga* for fear they might encourage readers to try things on their own without personalization and proper supervision.

The best of the yoga therapy that I observed appeared to be an art as much as a science. Skilled teachers would plan a course but would often modify it based on the student's progress and on what they'd observed. In medical class, B.K.S. Iyengar, legendary for his therapeutic prowess, would sometimes put a student in a pose, take one look, and immediately take the person out. Whatever his theory for choosing the posture, as soon as he saw the result, he knew it was not right. Perhaps the student's face had turned a little red or his breathing wasn't as free. Standardized protocols do not allow for this kind of improvisation.

Some institutions, like Vivekananda and the Art of Living, have been willing—at least for the purposes of science—to standardize. The irony is that if standardization does lower the quality of therapeutics, we might end up amassing the most scientific support for methods that are not the best yoga has to offer. This is no trivial matter, since the results of studies can influence which institutions get funding and, someday perhaps, which teachers get licensed or reimbursed by insurance companies.

But even the institutions that simplify and standardize for the purposes of science might not do so in real life. At SVYASA, each major disease has a prescribed set of asana and other practices. But the physician who evaluates all patients at Prashanti, R. Nagarathna, M.D., often modifies the regimen in light of the patient's condition. And while everyone at Art of Living learns SKY, the people that I met at the ashram stress that it's only a small part of the overall package they offer; it's just easier to study than the entirety of what they do.

Differences between what is studied and what people really do illustrate one way that science, for all its ability to illuminate, can also distort. Since studying the way yoga is used in the real world turns out to be too complex, compromises are made. You might say that what the scientists are doing is collecting meticulous information about an artificially stripped-down version of reality.

Of course, much of what yoga does can never be measured by science. Healing—transcending the *duhkha* (suffering) that marks human existence—often takes place on a spiritual plane. Unfortunately, there's no “spirituogram” that can quantify this aspect of yoga, so science does not look there much.

As with any holistic endeavor, measuring the constituent parts is not the same thing as understanding the sum of those parts. Reductionist science may tell us that yoga decreases systolic blood pressure and cortisol secretion and increases lung capacity, serotonin levels, and baroreceptor sensitivity, but that doesn't begin to capture the sum total of what yoga is.

## **Reconciling Science and Yoga**

If we are going to reconcile the science of yoga and the science of medicine, we may need to change the way we think. “We need a new paradigm,” insists Geeta Iyengar. We have to acknowledge there are different ways of knowing. There may be wisdom in this method, refined over thousands of years by trial and error and deep introspection, that cannot be captured by current science. No matter how much time and energy we invest in researching yoga scientifically, we will never be able to forego what we learn by our own experience and our direct observation of students.

To be fair, however, we need to look seriously at science's critique of yoga. Our personal experience and even compelling anecdotes can be misleading. In ancient systems like yoga, superstition may be perpetuated along with genuine insight. We don't know precisely which elements of what we do work and which don't, and we often do not know why. Perhaps one reason there are so many different systems of yoga is because nobody can agree on what works best.

There will probably never be scientific validation for each element of yoga, much less all the possible combinations. Some of yoga's aims, like equanimity, compassion—and also, for that matter, enlightenment—are difficult if not impossible to quantify. We must take some of what we know about yoga on faith—not a faith based on blind acceptance of doctrine, but one grounded in our everyday experience, on and off our yoga mats. We see yoga with our own eyes and we feel it in our bones, the sinews of our muscles, and even in our souls. While not perfectly reliable, such evidence cannot and should not be ignored.

There exists a middle ground, however, between uncontrolled observations and the throttle-to-the-floor reductionist science. It is a type of research known as “outcomes studies.” In such experiments, no effort needs to be made to standardize the approach or to isolate single interventions. Iyengar could change the treatment plan every five minutes and that would be just fine.

In outcomes studies, you just simply compare how well people with a certain condition react when treated with one approach versus another. Dean Ornish's landmark studies on reversing heart disease used this technique to investigate a comprehensive lifestyle program that included yoga, a low-fat vegetarian diet, walking, and several other elements.

By and large, however, Western scientists aren't too fond of outcomes studies. Because you never can tell exactly which elements of the program were effective and which were merely along for the ride, such studies are considered less rigorous, and so less believable. But unless the research is planned to separately evaluate the effects of Triangle Pose (in all its variations), left-nostril breathing (with every possible combination of breath ratios), adopting an attitude of nonviolence, and the thousands of other discrete elements that make up the practice of yoga, isolation is an unrealistic goal anyway. Since in the real world these practices are almost never done in isolation, any such studies wouldn't reflect what yogis actually do. This is part of a bigger problem with the reductionist paradigm of modern science: It tends to ignore the additive effects of different practices that may help explain yoga's effectiveness. But synergy can be captured in outcomes studies.

Good yoga studies can help us understand which practices and which systems work well (or not at all) for particular disorders. While reductionist mechanisms will never capture all that yoga is, understanding the parts can provide insight into the whole. There are potential pitfalls, though. It is entirely possible that some systems which lack an interest in conducting research or the infrastructure to carry it out may have the techniques that are the most effective. Science could help sort this out if researchers were to conduct head-to-head comparisons of different yoga styles as well as different approaches within the same style.

Well-done yoga studies, of course, also confer scientific legitimacy on the discipline in the minds of doctors, policymakers, and the general public. This could be vital in the years to come if yoga therapy is to help meet the needs of our aging population. I was surprised to learn that at some of the most active centers that I'd visited—Vivekananda, KYM, as well as Kabir Baug—more than 90 percent of the students there had taken up yoga to relieve a medical problem. As the baby boomers move into the decades where chronic conditions such as high blood pressure, arthritis, diabetes, and heart disease become common, and as they search for healing options consonant with their values, we can expect more and more people coming to yoga for medical reasons.

Some view this “medicalization” of yoga as a problem; they worry that doing yoga for a bodily affliction trivializes this great spiritual tradition. But this didn’t concern the masters that I had met on my journey. “Everyone comes to yoga because of some kind of suffering,” says N.V. Raghuram, a senior teacher at Prashanti. In other words, it doesn’t matter what brings a person to yoga, a bum hip or a desire to find God: Duhkha is duhkha.



## TWO

# Finding Your Dharma as a Path to Yogic Healing

*Helping your students discover their purpose in life can be a vital component of yogic healing.*

You might not think that helping your students find their *dharma*, or life purpose, could play a major role in their recovery from illness, but in my experience it can. One of the things I discovered in interviewing the dozens of students who served as the case histories for my book *Yoga as Medicine* is that almost every one of them had gone through some kind of major life change during the course of their yoga therapy. They switched careers, left dysfunctional work or personal relationships, and often tried to find a way to give something back, to make the world a better place.

The *Bhagavad Gita*, India's beloved ancient scripture, speaks in detail about dharma. Krishna, in advising the reluctant warrior Arjuna, tells him that it is better to do your own dharma poorly than to do someone else's well. Only when you figure out what you are uniquely able to do, and carry it out as well as you can, can you truly feel fulfilled in this life. Your dharma need not be lofty, but it should be something that feels right to you, and

something that in one way or another makes a contribution. Your calling might be, for example, to be a painter who brings joy to other's lives through your work. Or to work in a nonprofit, bringing vital services to those who otherwise might not get them. Or maybe it's to be the best parent you can be to your children.

## **The Connection Between Living Your Dharma and Health**

When you aren't doing what you're supposed to, life can feel pointless. When your existence feels empty, or even just vaguely unsatisfactory, it can be difficult to thrive physically and emotionally over the long haul. You choose the habits that can lead to either health or disease, and someone lacking a sense of purpose may have a tough time finding the self-motivation to make healthy lifestyle decisions regarding diet and exercise. Boredom and restlessness can make the abuse of drugs, tobacco, and alcohol seem more alluring.

Although, as far as I know, the question hasn't been studied scientifically, my guess is that those who lack a sense of meaning are also more likely to have their stress-response systems activated in a constant or repeated way, which is known to undermine health in myriad ways (see *Yoga for Stress and Burnout*). If this speculation proves correct—and the theory does seem to fit the facts—we would expect a higher incidence of emotional problems, such as anxiety and depression, among those who haven't figured out their life's purpose. We could also expect a wide variety of other maladies, from high blood pressure to autoimmune disease, since the mind can play a prominent role both in causation and, in those who can use the mind to foster relaxation and insight, healing of these and most other illnesses.

## **Look Within**

Although they may try, no one else can tell you what your dharma is. Indeed, when someone else is pressuring you to make a certain life choice, it usually reflects what they want for you, not what you want or need. While some enlightened masters may correctly apprehend what's best for their students, in general a yoga therapist shouldn't be trying to figure out their students' dharma so much as providing the tools that help their students figure it out for themselves.

Yoga teaches that all questions involving intuition or wisdom—and finding your dharma is a case in point—are accessed from within. It's hard to hear the voice of intuition, however,

in the din of the busy world, especially when your mind is busy, too. So the first step in helping your students find their dharma is to give them practices to quiet the mind. A variety of yogic tools, from asana to pranayama to chanting, can do this.

What you are trying to do is facilitate pratyahara, the turning of the senses inward. The breath is crucial in this regard, because it is the direct link to the autonomic nervous system, which includes both sympathetic and parasympathetic branches. Make the breath slower, deeper, and smoother, and you calm the nervous system. Calm the nervous system, and you begin to calm the mind. Calm the mind, and the voice of inner knowing becomes more audible.

For students who are ready for it, meditation is probably the most powerful yogic tool for studying the mind and accessing inner wisdom. Many people give up on meditation too early, though, because they think the busy mind they notice when they try to sit means they aren't "doing it right" and therefore aren't benefitting from the practice. The fact is, recognizing the nonstop chatter of your mind is the first step toward quieting it down. And studies have demonstrated that even those who feel like they "can't meditate" show physiologic benefits from making the effort. Meditation tends to unfold its benefits slowly over the months and years. It may feel torturous at first, but to those who can stay with a regular practice, ideally for at least 20 minutes every day, profound changes can occur, not the least of which may be a growing sense of what you are here to do.

## **Getting Balanced**

One caveat in trying to help your students access their inner intuition about their dharma is that a state of imbalance, viewed from an Ayurvedic perspective (see Ayurveda and Yoga Therapy), can lead them to inaccurately assess what's good for them. Someone who is stressed-out and vata-deranged, for example, may be drawn to things that tend to put their vata further out of balance, whether that's the food they eat, the style of yoga they practice, or the work they do. Get yourself in balance, however, and choices that tend to keep you in balance, and which better reflect your true nature, become more attractive.

A basic understanding of Ayurveda can help yoga therapists design practices that can move their students toward greater balance. If it's vata that's out of whack, the practice might include Sun Salutations to burn off nervous energy, standing poses to increase

grounding, and twists and forward bends to calm the nervous system, followed by a long Savasana (Corpse Pose). In addition to cultivating calmness via yoga practice, Ayurveda would suggest various lifestyle choices involving diet and other habits to foster balance. Imbalances in kapha or pitta would similarly call for specific yogic and lifestyle recommendations. If you don't have this expertise yourself, you may be able to refer your student to a colleague who does.



### **Dharma in the Real World**

Keep in mind that at the present moment, your student may not have enough information or pertinent life experience to accurately ascertain their dharma. Finding your dharma can be an ongoing process, and sometimes what's right at one phase of life is not appropriate at another. You often can't know what you're supposed to do until you try a few things. Especially if you're thinking about entering a field that requires years of study, it's advisable to talk to people who are already doing it, and perhaps arrange to spend some time with them on the job, to see if your ideas match reality. You'd hate to invest years and tens of thousands of dollars in education only to find out when you finally arrive that the field wasn't what you were looking for at all.

Once your students have a better idea of what they are here to do, it may still take a while to bring that vision into reality. If they've got family responsibilities or jobs that are paying the bills, it may not be prudent, ethical, or even possible to drop it all to follow their dreams. If so, the question becomes how they can, in a step-by-step fashion, start changing their lives to align them better with their vision. For someone who wants to be a painter, it might mean taking a night-school class or setting aside some time on the weekends to pursue art. At this stage the yogic tool of sankalpa, or intention, can prove useful.

A sankalpa is a promise you make to yourself about what you intend to do. It is positive and stated in the present tense, and it speaks of the reality you hope to bring into being. It might be as basic as, "I am living my life in accordance with my dharma," but the more

specificity you can bring to it the better. For the woman who hopes to paint, it might be something like, “I am moving toward becoming a painter by taking an art class two nights per week.” As time and circumstances change, you can guide your students to modify their sankalpas. Repeating this sankalpa regularly—saying it out loud a few times every day with feeling and even visualizing yourself living it—can help plant it more deeply in your subconscious, and, yoga would say, make it more likely to happen.

### **The Role of Instinct**

As your students move more deeply into their yoga practices, they will learn with greater and greater facility to access—and trust—their gut instincts. While your mind can help formulate the proper questions and research possible avenues for your skills, figuring out what is right for you is ultimately not a matter of thinking and analysis. In fact, thinking too much can actually interfere with making the proper decision (think back to multiple choice exams!), as you are likely to weigh into the equation such factors as what seems practical, what’s safer, or what other people expect of you.

If you have laid the foundation with your yoga practice, all you need to do is to ask yourself the question, then learn to go inside for the answer. What yoga is doing is lessening the interference, so that you can tune in and more accurately hear that inner wisdom. Better yet, yoga provides tools that can help your students bring their vision into reality. And doing that—or even just taking a step or two in that direction—will very likely benefit not just their health, but perhaps the world, too.



## THREE

# The Difference between Yoga and Yoga Therapy

*It could be the difference between health and harm*

In 1998, the journal of the American Medical Association (JAMA) published a study that found that an eight-week yoga program could provide benefit to people with carpal tunnel syndrome (CTS). These promising results got a lot of publicity, sparking interest amongst the general public and healthcare professionals. While such attention helps raise awareness of yoga's potential as a therapeutic modality, many people—including many doctors—might not know that you can't just wander into any yoga class with a condition and expect to be healed. In fact, if someone with CTS shows up at a hatha yoga class that includes poses in which they bear weight on the hands with the wrists bent back such as plank and Adho Mukha Vrksasana (Handstand), they could easily wind up worse than when they started.

One of the vital components that led to the positive results in the JAMA study is that senior Iyengar teacher Marian Garfinkel carefully designed a therapeutic yoga program tailored to the specific needs of CTS patients and, as necessary, adapted it to the individuals in front of her. Not only does this require a teacher with a therapeutic

background, this kind of personalization is rarely possible in a group hatha class setting. So, while taking yoga classes can help people with a variety of medical conditions, yoga therapy is not the same thing as simply going to a class.

Yoga therapy is generally taught one-on-one or in small groups. Settings vary but often a session with a yoga therapist resembles an appointment with a physical therapist or rehabilitation specialist more than it does a typical yoga class. It is still yoga, however, and thus places a heavy focus on awareness, with movement tied to relaxed, rhythmic breathing. Another difference from other therapeutic modalities is the emphasis on relaxation in therapeutic yoga settings. In fact, when patients are gravely ill, the entire practice may consist of breath awareness and relaxation until the patient is able to tackle more.

While some yoga teachers provide therapeutic help in a class setting, this is generally only possible when the teacher is very experienced, the problems are minor, the class is small, or when the teacher has assistants who can spend extra time during class with students who have special needs. It's also helpful when the teacher knows the students well and can trust them to immediately report anything that brings on discomfort of any kind.



To find qualified yoga therapist, ask around or call yoga studios in your area for leads. Keep in mind that there are different types of yoga therapists and their training varies enormously. Since there is no certification system for therapists, I suggest you look for a teacher with several years of experience.

Before setting up an appointment, be sure to inquire who they have trained with and for how long (as well as the number of hours) and how much experience they have treating people with your condition. Since yoga therapy for problems like arthritis, heart disease and cancer

requires greater knowledge of anatomy, medical conditions, the effects of medications and contraindications to practice than the average yoga teacher possesses, look for someone who has sought additional training in those areas or who by virtue of prior training in a health care profession like nursing or physical therapy already has it.

If yoga therapy is to move forward as a field, we need to clearly differentiate it from what happens in the average yoga class. We must also insist that people offering yoga therapy have sufficient training to not only help their clients but to avoid making them worse. That way we honor the Hippocratic principle of “first do no harm,” which incidentally is not a bad translation of the first principle of yoga, ahimsa.



## FOUR

### Ayurveda and Yoga Therapy

*Knowledge of Ayurveda can add subtlety to your yoga teaching and yoga therapy practice. Learn the basic characteristics of the Ayurvedic constitutions and tips for bringing balance to each.*

According to Ayurveda, India's traditional medical system, each one of us has an inborn constitution, or prakriti, that shapes our bodies, minds, and predilections. Most yoga teachers know at least a little about Ayurveda and have some notion of the basic constitutional types (doshas) of kapha, pitta, and vata. According to the Ayurvedic Practitioner Swami Shivananda, the Sanskrit word “dosha” literally means “that which becomes imbalanced.” This reflects the Ayurvedic belief that people of different constitutions, left to their own devices, often make lifestyle decisions—and choose yoga practices—that tend to put them further out of balance. Ayurveda also holds that people of different constitutions are prone to diseases that reflect the ways the doshas become imbalanced.

#### **The Stable Kapha**

In Ayurvedic thinking, kapha is associated with the earth and water elements. Think heavy and stable. Kaphas tend to be strong, with tremendous endurance, but they also tend

toward laziness. Kaphas are more likely than people of other constitutions to be sedentary. Kaphas are prone to depression, mucus-forming conditions such as bronchitis and sinus infections, and Type 2 diabetes (the kind associated with being overweight). If they take care of themselves, though, Ayurveda says they are also likely to live longer than people of other constitutions.

If kaphas do yoga, they are likely to choose gentle styles or restorative classes, things that feel good but don't challenge them too much. Anyone can benefit from relaxing yoga, of course, but to get the full benefits of the practice, kaphas usually need to be encouraged to work harder and do more. Inertia—that is, the tendency to stay still if you're not moving, and to stay in motion if you're already moving—is the operative principle of this dosha. Sandra Summerfield Kozak, coauthor with David Frawley of *Yoga for Your Type: An Ayurvedic Approach to Your Asana Practice*, has found that 15 minutes of vigorous activity at the beginning of practice sessions is often enough to get students out of the so-called “kaphic slump.” After that, they may be energized and ready to give it their all. Similarly, if you can motivate kaphic students to do a challenging practice regularly, they may be able to stick with it, and that can make a huge difference in their mood and overall health.

### **The Passion of the Pitta**

Pittas are typically passionate and highly intelligent, but they are also prone to anger and aggressiveness. Think of Type A personalities. People of this constitution—in which, according to Ayurvedic teaching, the fire element dominates—are more likely to develop inflammatory conditions such as lupus, skin eruptions, and heart disease. Many heart attacks, for example, happen in the aftermath of an angry outburst or other high emotions.

If pittas do yoga, they are often drawn to challenging practices, such as vigorous vinyasa classes, or to conceptually-oriented styles, such as Iyengar yoga, and they can get competitive about their yoga. Even though relaxation is what they need more than anything, they often resist it because they think it's not a good use of their time (in fact, time urgency is one of the hallmarks of the type A personality). One of the challenges of working with people of this constitution is to get them to back off, try less hard in the poses, be less achievement-oriented when they do yoga, and build relaxation into their routines. They often benefit from just the styles of yoga and practices that many kaphas gravitate toward.

## Vata in Motion

Vatas tend to be creative and high-energy, in constant motion, but easily distracted. According to Ayurvedic teaching, in vata dosha the air and space elements dominate. Vatas are more likely to develop conditions such as anxiety, arthritis, and diseases of nervous system. Constipation and insomnia are common complaints.

Vatas tend to choose active, movement-oriented classes. They are less likely to be happy in classes in which the flow is broken up for too long to discuss philosophy or explain the subtleties of anatomical alignment. Due to their restless minds, some vatas may have a hard time with slower, more meditative practices. At the beginning of a practice session, vatas may benefit from flowing poses, such as multiple sun salutations, to burn off some steam. Afterward, grounding practices, such as standing poses held for a minute or longer (depending on the student's level), can help reduce vata. Some vatas are drawn to vigorous pranayama practices such as Bhastrika, Kapalabhati, and fancy ratio breathing with long breath retentions. Unless they've gotten themselves well-grounded first, however, these practices can put them even more out of balance.

## Going Deeper

In reality, the Ayurvedic understanding of constitutions is much subtler than what I've described above. Each person has elements of all three doshas, so reducing a student to a single type will always be an oversimplification. Furthermore, prakritis like vata-pitta, in which two doshas are balanced fairly evenly, are common; and a few people are tridoshic, meaning they've got a more or less even balance of all three. People may also manifest temporary imbalances (*vikruti*) that do not reflect their underlying prakriti. For example, people of any constitution who undergo the movement, disruption, and stimulation of travel may find their vata getting out of whack. That, according to Ayurveda, is why insomnia and constipation are so common when you're on the road, and why travelers may benefit from vata-pacifying routines.

Ayurveda is a very deep well, and I believe that yoga teachers and therapists should make this field part of their ongoing study. In addition to the perspective it provides on yoga and yoga therapy, Ayurveda as a form of complementary medicine relies upon a broad array of tools including herbs, a variety of massage and bodywork practices, the multiday detoxification ritual known as panchakarma, and even surgery, although Ayurvedic

practitioners tend to start with simple dietary and lifestyle interventions. Learning more about Ayurveda can help you better practice yoga therapy, and you may discover in the process that you also learn more about yourself.

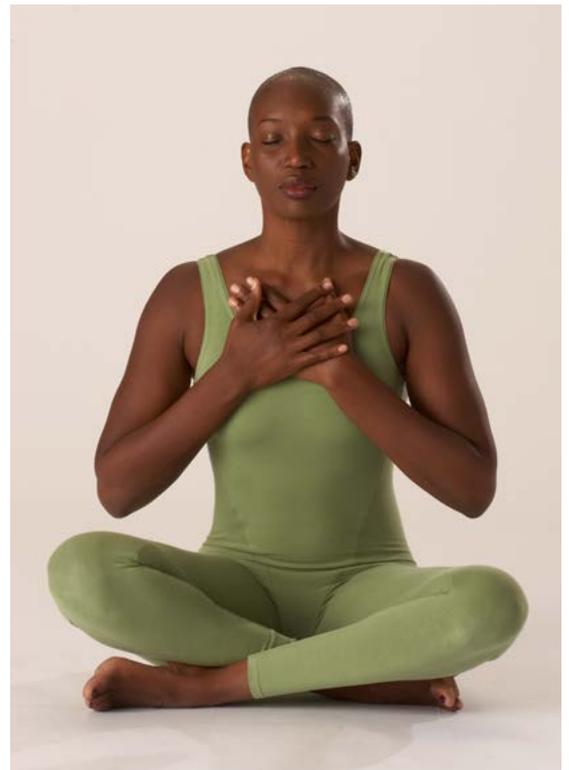


## FIVE

### The Heart of the Matter

*Yoga and Ayurveda Have A Few Things to Teach  
Modern Medicine about Heart Disease*

If you are a yoga teacher or simply someone who practices yoga, you may not think that much about heart disease. For one thing, the exercise and stress reduction that accompany the practice, as well as the much-healthier-than-average diet many yogis consume, puts us at much lower risk. Still heart attack and its complications kill more and more men and more women than anything else—even more than all forms of cancer combined. While modern medicine has learned a lot about heart disease, my belief is that yoga and its sister science of Ayurveda also have a lot to teach us about the prevention, recognition and treatment of this condition—including some things most doctors don't even know.



Here are four areas where the wisdom of the ancients—some of which might seem counterintuitive – is lining up with recent science in ways that can inform our understanding and potentially lower the odds of succumbing to the modern world’s number one killer.

**1. IT’S NOT JUST ABOUT CHOLESTEROL** For most of the past several decades, foods high in cholesterol and saturated fat, which raise cholesterol levels, have been vilified. Cholesterol-lowering “statin” medications like Lipitor, Zocor and Pravachol have become the most prescribed drugs in the world, accounting for tens of billions of dollars in sales. But accumulating scientific evidence is suggesting these drugs, while impressively lowering cholesterol readings, have more side effects and are much less effective than we’ve been led to believe.

While a few studies have suggested that statin drugs may increase life expectancy among some men at high risk of heart attack, they have never been shown to prolong life in women. They may lower the risk of heart attacks, and even the death rate from heart disease, but this doesn’t necessarily translate into an overall improvement life expectancy as people may simply die of something else. A major study of 10, 000 men and women followed for five years, for example, found 5 fewer deaths from heart disease in those taking a statin compared to the control group, but 15 more died from cancer. Overall, there was no change in life expectancy. Why would you want to accept the side effects, cost and hassle of statins when they don’t translate into living any longer?

Part of the problem is that doctors have been misunderstanding heart disease, or more precisely lumping different kinds together. For years, medical experts have subscribed to what might be called “the plumbing metaphor” of heart disease. In this way of thinking, cholesterol and other fats gradually clog up your arteries (the pipes) and you need a Roto-Rooter (angioplasty) or Drain-O (cholesterol-lowering drugs) to remove the blockages, or bypass surgery to end-run them. While this metaphor does accurately capture some heart disease, for most heart attack sufferers, it’s about more than just blockages. Here’s where Ayurveda, as we’ll see below, can be particularly useful in deepening our understanding.

**2. INFLAMMATION MAY BE A MORE IMPORTANT FACTOR** While doctors have focused primarily on large blockages, and used drugs, angioplasty and stents to reduce

their size, ironically much smaller blockages may be more worrisome. That's because smaller blockages may be less stable, more prone to rupture. And it's this rupturing that

Of interest, statins, in addition to their cholesterol-lowering properties, also fight inflammation, and this latter effect may explain some of their effectiveness (limited as that may be). But lifestyle measures like removing simple sugars and pro-inflammatory fats (such as corn oil and hydrogenated fat) from the diet, may be a cheaper, safer and more effective way to reduce inflammation. For thousands of years, practitioners of Ayurveda have recognized various foods, herbs, and other treatments that lower inflammation can be useful for heart disease, while others, such as pungent spices, tend to make matters worse. Modern doctors tend to know nothing of this dietary wisdom, amassed and refined over thousands of years of precise observation by generations of Ayurvedic masters.

**3. NOT ALL HEART DISEASE IS THE SAME** From an Ayurvedic perspective, the same symptom or disease may reflect different internal processes. Inflammatory heart disease is a sign of an excess of pitta, the dosha (constitution or bodily humor) that Ayurveda associates with the fire element. But Ayurveda has also understood that there is also heart disease caused by kapha, the dosha associated with earth and water. Sludge building up in arteries would be seen as a manifestation of excessive kapha, which pretty much corresponds to the plumbing metaphor we saw above. Not only can Ayurveda's toolbox effectively combat either pitta or kapha versions of heart disease, its practitioners have a variety of methods to detect doshic imbalances and respond accordingly. No Ayurvedic doctor worth his or her salt would have used anti-kapha treatments to treat a pitta problem, as the medical profession has been doing to millions of patients with heart disease for most of the last 50 years.

Ayurveda also understands that there can be heart disease primarily associated with the third and final dosha, vata, related to the air element. One example of vata associated heart disease is when excessive stress leads to a spasm in a coronary (heart) artery, cutting off blood flow suddenly, and precipitating heart attacks even in people with no detectable blockages. This kind of vata heart disease appears to be more common among women than men. Increasingly, modern medicine is recognizing that many women don't have such classic symptoms of heart attack as crushing chest pain. Doctors now realize that vital exhaustion, a kind of major burn out from prolonged or excessive stress (a vata problem),

often precedes women's heart attacks by several weeks. Ayurveda also recognizes that high levels of stress and other causes of excess vata can worsen both pitta and kapha forms of heart disease. Of course, while stress reduction is a weak spot in modern medicine, it's one of yoga's strengths.

**4. COMBINED APPROACHES WORK BEST** Yoga and Ayurveda are inherently holistic approaches. By holistic, I mean they consider multiple factors and tend to intervene—gently—in several ways simultaneously to bring synergistic benefits. In addition to recommending dietary changes and lifestyle changes for heart disease, holists may use herbs or bodywork, and regularly consider psychological, and even spiritual, factors in health and healing. Better still, true holism doesn't exclude reductionist tools like drugs, angioplasty and surgery, but tends to recommend them more selectively, and always tries to incorporate them into a broader overall approach.

Dr. Dean Ornish's comprehensive lifestyle program – which includes such yogic tools as asana, breathing practices, and meditation, along with walking, smoking cessation, and a naturally low-fat vegan diet—has been shown to not only effectively reduce the symptoms of heart disease, but was the first approach demonstrated to reverse heart disease by making blockages shrink over time. Some of Ornish's patients had symptoms so pronounced when they began the program that their doctors had recommended emergency surgery. Yet without surgery, and without the statins and other drugs many patients in the control group took, his patients had better outcomes.

Not only did their heart disease improve, so did their weight, blood pressure, blood sugar, and markers of inflammation. More recently, Ornish has extended his program to men with low-grade prostate cancer, and the early results look impressive. The cancers appear to be responding, and in addition, sophisticated genetic testing is revealing that dozens of good genes are getting switched on, while hundreds of bad genes, including those related to breast and prostate cancer, are getting deactivated. This is one advantage of holistic programs that often isn't given sufficient weight by doctors and medical researchers: the same program that makes one problem get better also tends to help many of the patients' other problems. Indeed, the secret of holistic systems like yoga and Ayurveda is that you improve any individual condition by improving the overall condition of the individual.



## SIX

### Lotus Pose on Prozac

*Taking an antidepressant doesn't mean you are any less of a yogi.*

With my instructor Patricia Walden, I've been teaching workshops on yoga for depression for several years. Some of our students have used the yogic tools we teach—like asana, breathing techniques, and chanting—to avoid taking antidepressants or to reduce their dependency on the drugs.

But we don't offer the workshops as a method of persuading people not to find pharmaceutical support in difficult times. There are situations when drugs truly are just what the doctor ordered. I view them as powerful means—along with yoga, aerobic exercise, and psychotherapy—to help address what can be a life-threatening condition.

Not only can clinical depression lead to suicide, but it can suppress the immune system and heighten the risk of dying of a heart attack or suffering a recurrence of cancer. In the right circumstances, antidepressants can offer amazing life support.

Mind you, these medications—such as Prozac and Zoloft—are far from perfect. They can take weeks to become effective and, unfortunately, are not guaranteed to work

for everyone. Sometimes it takes a painful process of trial and error to find the right antidepressant. And even when a particular drug does offer relief, it can trigger various side effects—from insomnia to sexual difficulties to a blunting of all emotions.

Yet antidepressants can help some people overcome depression, and can also give them the strength to tackle psychotherapy, bring themselves to their yoga mats, and make other life changes that may make the drugs ultimately unnecessary. Other people, particularly those with repeated episodes of major clinical depression, may need antidepressants for longer periods to stay out of the abyss.

Despite the proven benefits of these drugs, some people cling to the outmoded belief that they (or others) should be able to “snap out of it” without relying on the “crutch” of medication. Clearly, the persistence of this belief in our culture has little to do with its value and much to do with our fears about mental illness.

What’s wrong with seeking help when you need it? No one would dare to guilt-trip a diabetic about needing insulin or think a person who takes an antibiotic to get over pneumonia is spiritually weak. But our society has yet to completely accept mental illness and its treatments as just another entry on a medical chart.

Antidepressants themselves are neither good nor bad. What matters is whether they are an appropriate choice for you in light of your overall condition and the other methods at your disposal. Far from being a sign of weakness, recognizing when you need medication is a matter of seeing clearly—which is what yoga is all about. It can take a lot of strength to recognize the painful reality that you need help.

The question is not just whether to take an antidepressant but what you do with the resulting lift in mood and energy. Are you using it to begin the hard work of figuring out what your dark emotions may be signaling? In my experience, depression is often—although not always—a sign that something needs to change: an unfulfilling job, a dysfunctional relationship, an attachment to past resentments or disappointments.

If you take the medication to feel good but don’t face what needs to be faced, you not only miss the opportunity to transcend the depression, you may be inviting its return.



## SEVEN

# Using Yogic Awareness to Deepen Bodywork

*How you can use yogic awareness to maximize the effects of everything from physical therapy and massage to myofascial release and craniosacral therapy.*

At the beginning of my second session of myofascial release—a type of bodywork that involves coaxing connective tissues to open—I got to talking with the physical therapist, Rachel Berger of Brookline, Massachusetts, as she worked on me. When we finally quieted down 20 minutes later, I did what I’d done during my first visit: I closed my eyes and tuned in to my body and breath. As Rachel lifted my neck, I focused on the sensations and used slow, deep breathing to help release my muscles.

Later, she told me that until we had stopped talking, my body hadn’t been responding as in the first visit, when we both were quiet and which we thought had been a big success. In that first session, I felt like I had been facilitating her subtle work by bringing yogic awareness to the treatment table. It turned out my intuition had been correct.

In fact, I’d wound up in Rachel’s office due to the awakening of intuition and awareness of my body that I link to yoga. In a recent practice session, I’d become aware of what yogis would call an “energetic blockage” in the area connecting my right upper neck to the back

of my head. My sense was that my inability to create anatomical space and alignment there was rippling downstream through my right chest and abdomen, all the way down to my right calf. My intuition told me that a good bodyworker might be able to help the area open. A few calls to some friends yielded Rachel's number, and I set up an appointment.

Many physicians and scientists say there is no science behind healing practices like myofascial release and craniosacral therapy, another modality that Rachel employs. And they are right: There are virtually no studies that prove their effectiveness. But that does not mean these therapies are necessarily ineffective.

As with yoga itself, the real proof of bodywork is in the direct experience. And the more yoga you do—especially if you complement it with various forms of bodywork—the deeper your ability to sense your inner experience becomes. Yoga practitioners frequently discover that they develop finer and finer perception in areas of the body where they previously felt little. B.K.S. Iyengar calls this phenomenon awakening intelligence in the body.

With that in mind, here are some suggestions for using the wisdom of yoga to get the most out of bodywork.

- **CULTIVATE SILENCE** Taking some time for information exchange and explanation is fine. Just don't spend half your session as I did, chatting as you might with someone cutting your hair. Your awareness—and that of the practitioner working on you—can be more profound when you are both quiet. In some situations, music can facilitate relaxation, but if it in any way distracts you from internal sensations, it's best to forgo it.
- **BE MINDFUL OF SENSATION** If you find yourself going over your day, resentments, or fantasies for some future happiness, try to return to the present. Tune in as finely as you can to the effect of every stroke of the practitioner's hands. Examine how what's happening in your body is reflected in your breath, your sense of warmth, and other bodily sensations. Notice any unnecessary tightening: Check for tension in your jaw, your tongue, the space between your eyes; especially pay close attention to any areas of the back or neck where you chronically get tight.
- **FIND THE CONNECTIONS** In yoga practice, we learn to sense the ways that different parts of the body influence one another. In standing poses, for instance, creating

space between the toes helps us open through the legs and into the hips. In Savasana (Corpse Pose), letting go of the jaw facilitates release of tension in the tongue and throat. During a bodywork session, can you notice whether your chest relaxes a notch as the practitioner works on your neck? Or can you find a perhaps more unexpected connection, like sensation in your right hip when your left shoulder is being massaged?

- **USE YOUR BREATH** Your breath can do more than help keep you in the present moment; it can also help get you through some of the moments when bodywork becomes especially physically intense. I'm not sure that I could have tolerated some Roling and neuromuscular therapy sessions I've had without using deep Ujjayi breathing.
- **TAKE WHAT YOU FIND BACK TO YOUR YOGA PRACTICE** If you've paid attention during your bodywork sessions, you may have found opening or awareness in areas where you didn't have it before. During your next yoga practice, see if you can find that openness again and perhaps go even deeper.
- **DON'T SWEAT THE THEORIES** Some people shy away from certain types of bodywork because they doubt the explanations practitioners give for how those modalities work. Articles in medical journals, for example, ridicule the contention of craniosacral therapists that they adjust the skull bones, insisting this is impossible since these bones are fused early in life. But how something works is not as important as whether it works. And my experience suggests that many forms of bodywork (including craniosacral therapy) can be very effective.
- **STAY OPEN-MINDED** If you are interested in exploring bodywork, be open to trying multiple styles. Be guided by word of mouth, particularly from people whose yoga practice or other experience has given them good body awareness. It would be great if there were more scientific evidence of effectiveness, but most bodywork methods have never been formally studied. There is also something ineffable that talented bodyworkers of all persuasions do that can't be captured in study results. If you wait for the kind of proof most doctors look for, you won't be able to take advantage of most bodywork styles in this lifetime.



## EIGHT

### Yoga When You're Under the Weather

*It's cold season. If you start to feel achy, run down or develop a stuffy nose you may wonder if you should attempt your regular yoga practice or just give up and go to bed? What about the hundreds of drugs, vitamins, herbs and supplements designed to fight the symptoms?*

Here's what I suggest:

- **ADJUST YOUR YOGA PRACTICE BASED ON HOW YOU FEEL** If you are run-down, you're only going to risk making things worse by slogging through your normal yoga practice. It's better to listen to your body and do a gentle or restorative asana practice. Also skip strong breathing techniques like Kapalabhati and Bhastrika. Once your energy levels have improved, it's fine to gradually return to a more vigorous practice even if you continue to have symptoms like nasal congestion or a cough. If you feel worse after practicing, however, it's a sign you've probably done too much.
- **USE CONVENTIONAL AND ALTERNATIVE MEASURES TO TREAT SYMPTOMS AS NEEDED** Antibiotics are worthless for colds and over-the-counter multi-symptom cold remedies might contain five drugs when all you need is one or two. It makes much

more sense to take individual remedies like slippery elm lozenges for sore throats, acetaminophen (Tylenol) for pain and to inhale the steam from boiling water you've added eucalyptus oil to for nasal congestion. The jury is still out how effective measures like echinacea, zinc lozenges, Vitamin C and homeopathic preparations are but since they are all generally very safe, it's reasonable to give one or more of them a shot.

- **USE JALA NETI TO CLEAR YOUR NOSE** Neti kriya is a yogic cleansing technique that involves lavaging the nasal passages with salt water. It's fine to use a neti pot several times a day if you've got a cold. If you plan to attempt pranayama or meditation practice or even asana, it can help to do jala neti right before you practice.
- **USE SOUNDS WAVES TO OPEN UP YOUR SINUSES** The sound vibrations from humming have been shown to help open the sinuses facilitating drainage of phlegm. This can relieve pressure sensations and may even help prevent a bacterial infection of the sinuses. Try chanting "m" sounds such as with Om. Also useful for nasal congestion is the pranayama practice bhramari in which, with the lips together, you make the sound of a buzzing bee.
- **MODIFY OR SKIP INVERSIONS IF YOU GET HEAD PRESSURE** If you are tired, it's a good idea to avoid strenuous poses like headstand. Even shoulderstand may lead to an uncomfortable increase in nasal congestion and head pressure.
- **TRY SUPPORTED SAVASANA FOR CHEST AND HEAD CONGESTION** When you are run down with a bad cold, you need to rest but often poses like Savasana aren't easy to do because of nasal and lung congestion. Instead of lying flat, try supporting your back on a cylindrical bolster running lengthwise from your lumbar spine to your head (with a folded blanket under the head and neck if needed). This opens the chest, facilitating breathing. It also is more energizing than regular Savasana. Supta Baddha Konasana similarly can be done with the back supported.



## NINE

### Inversion Confusion

*Is it safe to go upside down when you're having your period?*

Most yoga students are accustomed to hearing their teachers ask whether anyone is menstruating before leading the class into inversions. In many styles of yoga, such as Iyengar, doing inversions during your period is considered strictly verboten. Yet not all teachers consider menstruation an absolute contraindication to going upside down.

From a yogic perspective, the reason for not inverting during menstruation has to do with apana, the hypothesized downward pranic force that is said to help facilitate things such as bowel function, urination, and menstrual flow. The concern is that reversing this normal energetic movement could interfere with the period, leading to a cessation of flow and possibly heavier bleeding later on.

It may be wise to avoid inversions while menstruating. But from a medical standpoint, the belief is based mostly on speculation. Women are often warned that if they invert during their period, “retrograde menstruation” could occur. That is, blood could flow in the opposite direction and lead to endometriosis, a painful condition in which small clusters of uterine cells grow in the abdominal cavity. One study, however, found that retrograde

menstruation naturally occurs in 90 percent of women, most of whom never develop endometriosis. So we do not know for sure if inversions increase retrograde flow or whether the backward flow increases the risk of endometriosis.

Here's my take on the situation: During class, if your teacher doesn't think you should be inverting, you ought to comply with her wishes. What you do on your own time during your personal practice, however, is your business.

If you are a seasoned practitioner, I believe you can trust your personal experience. If you choose to invert, notice what happens to your energy level and your menstrual flow. Also, take note of any discomfort you experience. If you don't notice any problems during practice or over the next several hours, I doubt you'll cause any long-term damage. A brief halt in flow followed by normal bleeding isn't much cause for concern. If inverting aggravates your symptoms, though, take it as a sign to back off during future periods.

Adjust your home practice based on your symptoms and experience. As a general rule, you might want to refrain from inverting when your menstrual flow is heavy (when you may not feel that well anyway). With a lighter flow, the risk of going upside down is probably less. Briefly held inversions—say, a minute or less—are also less likely to cause problems than longer-held ones.

Beyond just inversions, don't insist on maintaining a vigorous practice no matter how you feel. If you are tired and achy, your body is telling you to take it easy, in which case my advice is to refrain from all strong asanas—such as Sun Salutations, standing poses, and balances—in favor of a more restorative practice. Sometimes the “real yoga” is knowing when to back off.



## TEN

### Upside Downside

*Headstand can have just as many risks as benefits.*

*Here are a few things to consider before going up.*

Last year, after developing a nerve blockage in the chest called thoracic outlet syndrome, I stopped doing Sirsasana (Headstand). In the months prior, I'd worked up to holding the pose for 10 minutes, and I'm now convinced that the resulting compression of my chest led to the nerve problem. Shortly after stopping Headstand, the intermittent tingling in my arm went away.

Looking at the faces of people doing Headstand, I often see little of the ease, or sukha, that Patanjali stresses should be part of every asana. Some people appear to be straining or breathing erratically, and many students look like they can't wait for the teacher to tell them to come down and rest.

Even though the pose was never comfortable for me either, I had stayed with it because of the purported benefits. T. Krishnamacharya, the guru of K. Pattabhi Jois, B.K.S. Iyengar, and T.K.V. Desikachar, called Headstand the king of the asanas, and practicing regularly is stressed in Iyengar Yoga, the main style I've studied. Headstand is believed to calm the

nervous system and promote a yogic mind (that is, foster equanimity), and has numerous physiological effects, including reducing the breathing and heart rates, slowing brain waves, and enhancing the drainage of lymph from areas below the heart. It also induces reductions in norepinephrine, aldosterone, and antidiuretic hormone levels, and so tends to lower blood pressure.

Interestingly, the pose is rarely taught by Desikachar and his followers, due to safety concerns, including neck problems such as herniated disks and arthritis in the cervical vertebrae (bones of the neck). Of greater significance is the potentially heightened risk of stroke in people with inadequately controlled high blood pressure and of retinal bleeding or detachment in those with some types of eye disease. For people with glaucoma, Headstand may further increase pressure in the eyes, contributing to loss of vision.

So, should you dare to go up? I tend to view the question in light of my own medical training. Doctors are used to weighing the risks and benefits of any intervention before deciding what to do, and I suggest you do the same when contemplating potentially risky poses. For a certain group of yoga students, I have little doubt that Headstand can be safe and of great value. These students have enough openness and strength to be able to lift out of the shoulders and thoracic spine and skillfully use their legs to bring further elevation. They are also able to maintain good alignment of the arms, head, and neck and to keep their feet directly over their heads. When the feet drift, it can generate an unhealthy torque on the cervical vertebrae.

Given how tiny and fragile these vertebrae are, I wonder if it is advisable to teach this pose in open classes, in which students of varying levels may be participating. In a class setting, some people may end up doing what isn't safe for them or what does not feel good. The desire to persevere with a pose that your body is indicating is not right (or not yet right) for you ought to elicit some serious self-study, or *svadhyaya*. You might ask yourself why you are doing yoga and what you hope to gain from it. In this light, putting off or forgoing a pose you'd like to do can be an opportunity for growth and greater self-knowledge.

If you have no strong contraindications but alignment is a problem, using a mirror, wall, or corner to give proper support can help. If they are available, wall ropes and props, such as two chairs, can provide excellent alternatives for those with neck or

thoracic spine problems. If maintaining alignment is an issue, come down as soon as you lose sukha, then slowly build up gradually. More time on preparatory poses is also advisable. For those with poorly controlled high blood pressure, glaucoma, or retinal problems, however, Headstand may simply be too risky in any form.

Luckily, there are many alternatives that can give you a wonderful yogic experience even if the pose isn't right for you. Ask your teacher for recommendations.





## ELEVEN

# Working with Students Who Have Yoga Injuries

*Students who injure themselves practicing yoga may need to modify their usual practice in order to get better*

Ahimsa, Sanskrit for non-harming or non-violence, is the first yama or moral injunction in Patanjali's *Yoga Sutras*. It's also the foundation of yoga and yoga therapy. The practice is designed to improve health and well-being, and a growing body of scientific evidence suggests it works. Even so, yoga injuries—particularly with the more vigorous asana styles popular today—are increasingly common. A recent government report revealed that almost 4,500 people in the U.S. visited an emergency room in 2006, the most recent year for which statistics are available, due to a yoga injury.

Students who come to you seeking therapy for yoga injuries need careful evaluation, both to treat the current problem and to prevent future ones. The first thing you'll want to do is try to analyze what happened. Often students will be able to pinpoint a specific pose that led to the problem, though sometimes they'll only know that something hurts. If you observe them practice, you may be able to figure out what's likely to have occurred.

## Common Causes of Yoga Injuries

Probably the most common factor in yoga injuries is trying too hard. We are an achievement-oriented society, impatient for results, and yoga students aren't immune from this. The peer pressure of a class may spur some students to attempt poses they aren't ready for, or to push their bodies to reach a certain alignment, overriding signs from the body and breath that they've gone past their "edge." This type of injury is most likely to happen to students whose Ayurvedic constitutions include strong elements of vata, pitta or both [please link to my past column on Ayurveda and Yoga Therapy]. (Hands-on adjustments are another common cause of yoga injuries, though I won't be addressing them specifically in this column.)

Vata types tend to be more flexible, and have greater laxity in the ligaments surrounding joints, putting them at heightened risk of injuries. Vatas can also have a harder time remaining mindful, and it is often during periods of inattention when an injury occurs. All students, but particularly those with vata tendencies need to be especially mindful of the transitions in and out of poses where attention may flag and many injuries occur.

Pittas, Ayurveda teaches, tend to be especially driven. Of course, pushing to "achieve" a certain alignment or attempting a pose that your body isn't ready for can be missing the larger point of yoga, which is not about such external markers of proficiency, but much more about one's internal state. Happiness, equanimity, cheerfulness and reduced suffering—far more than flexible hamstrings or a fabulous Urdhva Dhanurasana—are the markers of a skillful practice.

Another major cause of injuries is biomechanical. Poor bony alignment, often due to tightness of specific muscles (or other soft tissue such as fascia) or ignorance of proper form, can lead to compression of joints or tearing of tissue. It takes a trained eye to diagnose misalignments and to figure out what's causing them, which is one reason why there is no substitute in yoga for working directly with an experienced teacher who can give you personal attention. In order to heal the injury and prevent future ones, such alignment problems need to be addressed. That said, in the acute phase after an injury, you may need to wait a while before focusing on improving your student's alignment.

## Working with Acute Injuries

Although you are trying to help your students to heal, your primary responsibility as a yoga therapist, following the principle of ahimsa, is to *not* make them worse. When an area is acutely inflamed, you'll want to give it time to recover and for the inflammation to subside. Signs of inflammation include redness, swelling, pain, and warmth to touch. (Significant inflammation should prompt you to encourage the student to get a medical evaluation to be sure that nothing more serious is being missed.) If you try to work such tissue strongly, you may make matters worse. Similarly, if there's significant swelling or inflammation, it's best to have the student avoid practicing in a hot environment, as heat fuels inflammation and, especially in the first couple of days after an injury, can increase swelling.

The routine you recommend to an injured student is likely to be radically different from, and usually much gentler than, what they may be used to. Less can definitely be more. Rather than prescribing long therapeutic sequences, in the early stages it's often better to have them do a few poses carefully and well. With acute injuries, it's also often best to work around the troubled area, focusing more on other areas of the body, while letting the injured area rest. You may also need to avoid the poses (or category of poses) that got the student in trouble. Restorative poses can be very useful since props can be used to support injured tissues, allowing good alignment with minimal exertion.

Restoratives also help calm the nervous system, which may be agitated in response to the injury. When the body's stress system is turned on, it fans the flames of inflammation and exacerbates muscle tension, contributing to both pain and misalignment. Other practices like chanting, meditation, guided imagery and simple breath work can also foster relaxation.

## Knee Problems

If the knee is swollen or shows other signs of inflammation (see part 1), you may need to avoid most active asana practices, instead focusing on restoratives, breath work, etc. Until fully recovered, students should step, not jump, into poses. Be particularly careful with squats like Utkatasana (Chair pose) and Malasana (Garland pose), as these can cause shearing forces on the knee. You may also need to avoid one-legged poses like Vrksasana (Tree pose) since the joints in the standing leg are under twice as much pressure. This is particularly true of students who are overweight (common in people with knee injuries).

If poor alignment of the knee is an issue, rather than going directly after the knee, especially in the early stages when swelling and inflammation are present, turn your attention to the foot and ankle, and the hip. Misalignments in these neighboring joints can lead to knee misalignment, and correcting them can make a big difference in knee function. If tight hips are contributing to misalignment, a variety of hip openers including Kapotasana (Pigeon pose) may be useful. Although Virasana (Hero's pose) can be therapeutic for students with knee problems, you'll usually need to support the hips with blankets or a block or you risk "torqueing" the knee, potentially exacerbating the problem. Some students with knee pain benefit from placing a folded washcloth or other thin prop behind the knee to create additional space in the joint in this and other bent-knee poses.

If the knee joint is painful but not acutely inflamed, several brief repetitions of standing poses may be preferable to longer holds. You can take some of the burden off the joint in standing poses by supporting the body weight. In Virabhadrasana 2 (Warrior 2), for example, have your students place their hands on a table or platform behind them, or use a chair under the front thigh. Even using a block under the hand in Trikonasana (Triangle pose) can take some of the weight off the knee. In Triangle and other poses be sure your student is not locking the front leg knee back, as this can compress the medial meniscus. If you find this pattern, instruct the student to place more weight on the ball of the front foot and less on the heel, and to keep a "micro-bend" in the front knee (which actually isn't a bend at all. It just feels that way if your habit is to hyperextend the joint).

## **Back Pain**

Back injuries come in so many varieties, it's hard to come up with useful rules of thumb that will apply to all of them. People differ in their postural habits, patterns of muscle tightness and weakness, as well as the precise location of their injuries. Dozens of different muscles can go into spasm, numerous ligaments can be strained, and a variety of joints can be inflamed, and from a yogic perspective each may require a different response. Even what's contraindicated may vary based on the mechanism of injury. Most cases of what doctors lump into the categories of "low back strain," and "sciatica" respond to gentle backbends like Cobra (Bhujangasana), while many forward bends may exacerbate the problem, and are generally contraindicated in the early stages after the injury. Seated and standing forward bends, in particular, can compress the front of lumbar spine causing

the spinal discs in between the vertebrae to budge backwards and to the side, potentially pushing on nerves exiting the spinal cord. But yoga injuries caused by over-arching the lumbar spine, for example, may benefit from forward bends like Uttanasana, whereas even gentle backbends may make matters worse.

One thing we doctors have learned in the last couple of decades is that babying a sore back is not the best way to go. When I was in med school we were taught to put people with acute back pain on strict bed rest for several days at least. We now know that that's ill-advised. Studies show that people do better when they resume gentle exercise soon after injury. First try to find poses in which the student is pain-free, such as Pavanmuktasana (Supine Knee-to-Chest pose), and then gradually work up from there over the coming days and weeks, always being guided by what you observe and the student reports.

As always, try to personalize your approach based on the specific pattern of tight muscles, under-working muscles, and postural misalignments you observe – as well as your student's response to the therapeutic measures you try. One-size-fits-all back exercises, such as the kind doctors often recommend to strengthen the abs, don't work well, and recent evidence suggests may actually be counterproductive. This should come as no surprise to the yogi since we know that some people get back pain from an unhealthy flattening the normal inward curve of the lumbar spine. Stomach crunches, which can tighten the hip flexors, may only make matters worse. Luckily in yoga, particularly with student who've developed good body awareness, pain (or the relief of pain) as they do the poses you suggest—as well as their breathing, balance of effort and ease, etc.—will indicate whether they are likely to be harming or helping.

## **Wrist Pain**

Wrist problems tend to come on slowly, unlike many knee, back and other yoga injuries. Your students may complain of a vague ache, and eventually sharper pain, as well as numbness and tingling in their hands, wrists and/or forearms. The poses most likely to bring on symptoms include Adho Mukha Vrksasana (Handstand), Chaturanga Dandasana (Four-Limbed Staff Pose), and Urdhva Dhanurasana (Upward Bow pose), all of which involve weight-bearing with the wrist cocked back. In this position, many students flatten the carpal tunnel, the bony canal in the wrist through which several tendons and the median nerve pass. Compression of the median nerve is the principle cause of carpal

tunnel syndrome (CTS). Students with small wrists, women (who tend to have smaller wrists than men), and those who are overweight, have diabetes or thyroid disease are at greater risk for CTS.

If you watch a student with wrist pain do Adho Mukha Svanasana (Downward-Facing Dog pose), you may notice that most of the weight in their hands is falling on the base of the palm near the wrists, in other words, right on the carpal tunnel. You want to teach them to place more weight on the knuckles and less on the base of the palm. This action is facilitated by engaging the muscles on the underside of the forearms to lift the proximal wrist bones up toward the elbows. Students can practice this action on all fours, then see if they can maintain it when they push up to Down Dog.

For students who have a hard time learning this action, try placing a rolled up mat or a slant board (thin edge toward the fingers) under the wrist as they do the pose. Once they've got the feel, see if they can reproduce it in the full pose. If even with this correction you student still has discomfort in Dog pose, try having them work to bring the upper inner things up and back, which takes weight off the wrist. Bending the knees also lightens the burden on the wrist. If even that proves too much, try Half Dog pose with the hands at the wall or on a counter-top. Learning to place more weight on the knuckles and lift out of the wrist will help make all the other bent-wrist poses like Handstand easier— though if the tendons in the wrist have gotten inflamed, it may be a while till your student is ready to tackle that pose again.

## **Hamstring Tears**

Hamstring tears in yoga typically occur near the sit bones (ischial tuberosities) and often happen during forward bends like Uttanasana (Standing Forward Bend) or Upavista Konasana (Seated, Wide-Legged Forward Bend). During rehab, you need to be careful with these poses, perhaps doing them with the knees slightly bent, or avoid them entirely. The arms should never be used to crank yourself more deeply into the pose. Also be careful of standing poses that have an element of forward bending in them, such as Trikonasana (Triangle pose) and Parsvottanasana (Intense Side Stretch pose). Down dog and Uttanasana may also be safer with slightly bent knees, which takes some of the pressure off the hamstrings, while facilitating the stretch of the spine.

The biggest risk in rehabilitating hamstrings is in doing too much too soon, leading to re-injury. Months of progress can be lost in seconds. Slower, more mindful practice is less risky than fast-paced vinyasa. Other than resting the hamstrings to let the tissue repair itself, work on strengthening these muscles, as their relative weakness compared with the quadriceps may contribute to the vulnerability to tears. Backbends like supported Bridge pose (Setu Bandha Sarvangasana) with the hips on a block strengthen the hamstrings. In this pose, ask your students to visualize the sit bones moving toward the backs of the knees, and the quadriceps lengthening.

## **Shoulder Injuries**

Shoulder strains and injuries to the rotator cuff—the sleeve made up of the tendons of four muscles that help the shoulder form a socket around the head of the humerus bone—are nearly ubiquitous as people get older. They typically result not just from the precipitating event, but from the cumulative effect of years of wear and tear. Since these injuries can make it difficult and painful to lift the hand over the head, you may need to avoid poses like Adho Mukha Svanasana (Downward-Facing Dog pose) and Adho Mukha Vrksasana (Handstand). In more severe cases, students may have difficulty even bringing their arms parallel to the floor as they prepare to move into standing poses. Some poses can be modified. For example, Virabhadrasana 1 (Warrior 1) can be done with the hands on the hips rather than stretched overhead.

Shoulder problems like rotator cuff injuries and bursitis often involve a significant degree of inflammation, so follow the recommendations on dealing with inflammation from part 1 [\[link\]](#) of this article. You may want to avoid poses like Chaturanga Dandasana (Four-Limbed Staff Pose) entirely, and be very careful of ones like Gomukasana (Cow Face pose) and Reverse Namaste, in which many students poke the head of their humerus bones too far forward to be safe. Indeed, due to the weight bearing involved, Chaturanga may be one of the most dangerous poses for the shoulder if your student has this common postural habit. For these students, repeated cycles of Surya Namaskar that include full Chaturanga, especially when they are done quickly (which makes getting alignment right more difficult), causes many shoulder problems and may be contraindicated during their rehabilitation.

Like hamstring tears, rotator cuff injuries are easily re-injured, potentially setting your student back to square one. Though it can be hard to do, being patient, never pushing

through pain, and avoiding poses that could set you back are the best way to heal these stubborn injuries. It's okay to work through mild shoulder discomfort—and this may be necessary to increase range of motion—but any sharp pain, or an increase in pain after the practice, means you've gone too far.

As with many yoga injuries, if you can simply get your students to stop doing what got them into trouble in the first place and avoid contraindicated poses during their rehab, while using a gentle asana program to build shoulder muscle strength, gradually restore range of motion, improve alignment, and foster relaxation, nature and time may take care of the rest.

### **Skipping Class**

Students with serious injuries may need to forgo classes for a while, particularly if they've been taking fast-paced classes or ones in which everyone is expected to do the same thing. (Some seasoned teachers can work with injured students in a class setting, but this is more the exception than the rule.) With injuries, students need to learn to tune into sometimes subtle indications that a particular pose is not good for them right now, and that's harder to do in the din of a busy class. Experienced students are generally better able to care for themselves in class when they are hurt, but it's still probably riskier than a careful home practice.

Skipping class may be difficult for students who are attached to their teachers, their usual practice and the social environment that go with them. But it's simply not appropriate for students to be doing yoga practices which may be exacerbating or delaying healing of injuries. The Bhagavad Gita defines yoga as “skill in action.” But there can also be yogic skill in inaction. Sometimes the best yoga you can do is no yoga—or at least not the yoga you've been doing. One of the great beauties of this discipline, though, is that there are so many tools in the toolbox that's there are almost always other yogic practices you can do instead.

### **“But I Like Doing that Pose...”**

Any injury that limits what students can do presents a perfect opportunity for self-study (the *niyama*, or spiritual observance, of *svadhyaya*). What led to the injury? Is there something that needs to be changed to prevent a recurrence? As mentioned in part 1,

most yoga injuries are caused by either bad biomechanics or trying too hard (or both), and Ayurvedic imbalances can also play a role. Dietary, herbal, bodywork or other measures to correct imbalances of vata, pitta, kapha can be a useful adjunct to yogic treatment. Unless you are skilled in Ayurveda consider referring your students to an experienced Ayurvedic healer.

For the injury to heal and to prevent future ones, getting at the root causes is essential. Often dysfunctional postural alignment and patterns of overwork are deep samskaras, or engrained habits. Even if your students can't change these grooves of thought and deed right away, bringing awareness to them is the first step. In cases in which tightness in the fascia is contributing to dysfunction – common in carpal tunnel syndrome, knee injuries, shoulder pain, etc. – bodywork, particularly kinds aimed at deep tissue, can be a useful adjunct to yoga therapy.

A broader question you might raise with a student who resists modifying his or her practice in response to an injury is: Why are you practicing yoga? If it's to improve health or grow spiritually, then you might ask why are they so attached to doing something that's bad for them (even if it is yoga)? An injury may thus allow your students to deepen their understanding of themselves and grapple with important questions they may not have thought much about.

Some students, of course, will resist your suggestions to not do some classes or some poses, but at least you can plant the seed. Try to have compassion and refrain from coming off as overly judgmental. Deeply-grained behavioral patterns are hard to change, and in many other areas of their lives, students may be rewarded for overworking and ignoring feedback from their bodies. Try to get these students, in particular, to use the breath as a gauge of whether they are going too far. When students are out of whack from an Ayurvedic perspective, things that are bad for them can feel right, and contribute to an unwillingness to follow sensible advice. Slowly correcting these imbalances can lead to better decisions on their part.

A yoga injury can also be an opportunity to broaden your students approach to yoga. If they can't do their usual asana practice, you may be able to get them to give pranayama, chanting or meditation a more serious try, since many of the same benefits—and some

additional ones harder to get from asana—can come from these other yogic tools. Remind your students that in the long-run a regular pranayama or meditation practice will also make them better asana practitioners. An injury can be an opportunity to encourage students who normally shun restorative poses in favor of pedal-to-the-metal asana to bring more balance to their practices.

## **Gratitude**

An injury can also be a time to cultivate gratitude, though that may be the opposite of what your students feels like doing. But “cultivating the opposite,” *pratipaksha bhavanam*, is precisely the remedy that Patanjali recommends for difficult times. Rather than dwell on what you’re missing, think of all you have to be grateful for, including all the parts of your body that are working pretty well. And even though yoga resulted in an injury, it also provides many tools that can very likely help heal it. Consider, too, that a regular yoga practice—by improving balance, flexibility, muscle strength and bodily awareness, etc.—is probably preventing many injuries off the mat as well as helping prevent more serious medical problems from diabetes to heart attacks.

Injuries are also often a wonderful time to learn more about anatomy, and bring awareness to areas of the body, postural habits, and patterns of trying too hard that your students may only be dimly aware of. For students who are themselves teachers or who aspire to teach, an injury can make them much more effective, as they learn about injuries and how to work with and around them. In retrospect, I’m grateful for the yoga injuries I’ve had because they’ve taught me so much.

Then there’s the *niyama* of *santosha*, contentment, i.e. learning to be happy even when you don’t have everything you think you want. It’s a sure sign that your yoga practice is yielding benefits when your well-being doesn’t drop so precipitously during life’s inevitable challenging moments. After one of my former teachers underwent a total hip replacement, I spoke with her about the new limitations in her practice. Even though certain poses she loved were now off limits, she smiled broadly and said, “I can do enough.”



## TWELVE

### (There Must Be) 50 Ways to Heal a Yogi

*We asked YJ's Medical Editor to Explain How Yoga Improves Health*

Just weeks before my trip to India in 2002 to investigate yoga therapy and Indian research on yoga, I developed intermittent numbness tingling in my right hand. After a briefly considering scary things like a brain tumor and multiple sclerosis, I figured out that the cause of the symptoms was thoracic outlet syndrome, a nerve blockage in my neck and chest.

I quickly came to appreciate that, in a funny way, the symptoms were a gift. I had planned to visit various yoga therapy centers in India to observe their work. Now instead of just watching, whenever possible, I would submit myself for evaluation and treatment by the various experts I'd arranged to observe. This would allow me to try their suggestions and to see what worked for me. While this wasn't exactly a controlled scientific experiment, my experience had taught me that such hands-on learning can teach you things you might not otherwise understand.

One thing that was striking about the different teachers I consulted was how different their recommendations were. At the Vivekananda ashram just outside of Bangalore, the

physician in charge, Dr. Nagaratha recommend breathing exercises where I imagined bringing prana, or life force, into the area of my right upper chest. Their therapeutic approach included asana, pranayama, meditation, chanting, lectures on philosophy and various kriya (internal cleansing techniques). At the Krishnamacharya Mandiram and in a similar approach followed by A.G. Mohan and his wife Indra who practice just outside of Chennai, I was told to stop practicing headstand and Shoulderstand and prescribed sets of gentle asana coordinated with the breath. In Pune, Dr. Karandikar recommended a series of practices in which ropes and belts put traction on my spine and exercises which taught me to use my shoulder blades to open my upper back.

Although on the surface the practices were very different, I found all of them useful. Thanks to these approaches and others from teachers here and some things I figured out on my own, my chest is much more flexible than it was, my posture has improved and for more than a year, I've been symptom free.

The experience got me thinking about how yoga works. This wasn't just stress reduction or the placebo effect. There were strengthening and awareness exercises, visualizations and practices designed to change my posture. It became clear to me that there are dozens of different tools in the yoga toolbox that work in a variety of different ways. When I returned from my travels, I began to pore through the stack of scientific studies I'd collected in India as well as some from the West to identify mechanisms of action that help explain how yoga can both prevent disease and facilitate recovery from illness.

## **50 Ways that Yoga Heals**

Here are 50 ways that yoga works that are supported by evidence and which are consistent with a Western scientific worldview (see chart). While it would have been possible to choose others, these 50 provide a broad overview of how different yoga practices can improve health. For the sake of convenience, I've divided the mechanisms of action into seven categories: musculoskeletal, circulatory, metabolic, nervous system, organ function, psychological/spiritual, benefits of specific practices and, at the end a few miscellaneous stragglers.

### **Musculoskeletal**

Yoga's effects on the physical body come primarily, though not exclusively, from asana

practice. While greater strength and flexibility, improved posture and better balance can be ends in themselves, they also can both prevent many medical conditions and complement their treatment.

**1. GREATER FLEXIBILITY** Think back to the first time you took a yoga class. You were probably asked to stretch in ways you would have never even thought of. But if you stayed with it, you probably also observed that over time tight areas become looser, and that the “impossible” poses eventually became possible. Scientific studies have confirmed this—regular yoga practice increases flexibility of muscles and increases the range of movement in different joints. But the question remains, how might this benefit health? Consider a few examples.

A lack of flexibility in the hips—which yoga can remedy—may put strain on the knee joint due to improper alignment of the thigh and shin bones. Back pain can be caused by tightness in the hamstrings that leads to a flattening of the lumbar spine. A lack of flexibility in muscles and connective tissue including fascia and ligaments can contribute to poor posture and frustrate efforts to improve it. This was my situation prior to studying yoga.

**2. STRONGER MUSCLES** Many people desire strong muscles for aesthetic reasons. But consider this: Muscle weakness contributes to numerous problems including arthritis, back pain, and falls in the elderly. Fortunately, asana practice not only strengthens muscles, it does so in a functional way, by balancing strength with flexibility. In contrast, some weight lifters have routines that aren’t well balanced, resulting in uneven strength and a loss of flexibility.

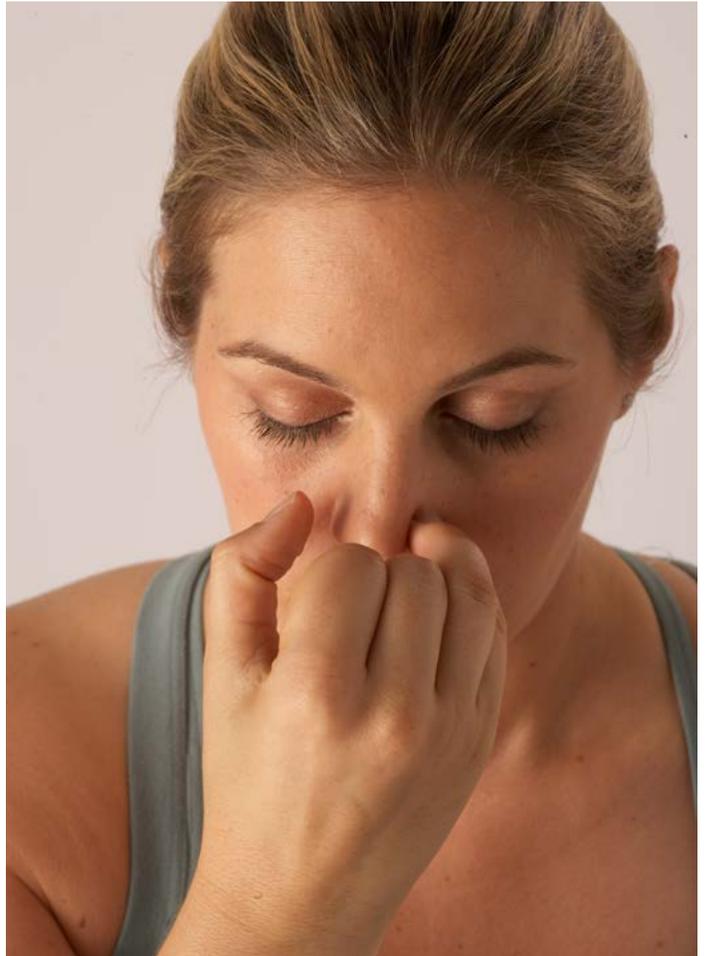
**3. HEALTHIER JOINTS** The cartilage in joints such as the knee acts like shock absorbers and allows the bones to glide over one another. Asana practice systematically takes joints through their full range of motion which may help prevent degenerative arthritis or lessen disability by “squeezing and soaking” areas of cartilage that normally wouldn’t be used. Functioning something like a sponge, joint cartilage only receives fresh nutrients when its fluid is squeezed out with movement, allowing a new supply to be soaked up. Lacking sustenance, neglected areas of cartilage can eventually wear out allowing the underlying bone to be exposed like brakes with worn-out pads.

#### 4. **NOURISHES INTERVERTEBRAL DISCS**

Like articular cartilage, spinal discs—the shock absorbers between the vertebrae that can herniate and compress nerves—require movement to receive nutrients. A well-balanced asana practice that includes backbends, forward bends and twists helps keep discs supple.

#### 5. **IMPROVES POSTURE**

Poor posture can cause back, neck, and other muscle and joint problems and was a contributing factor to the nerve condition I developed in my arm. When I began yoga, I slouched from years of reading and staring at computers. I also tended to carry my head several inches in front of my spine, a common postural problem. When a person slumps, the body tends to compensate by flattening the normal inward curves in the neck and lower back, contributing to pain and degenerative arthritis of the spine.



The head can be likened to a bowling ball—it's big, round, and heavy. When that ball is balanced directly over an erect spine, it takes much less work for the neck and back muscles to support it. When it's held several inches farther forward, the support muscles endure strain. The head-forward position can even exacerbate another major problem in the modern world—fatigue. Hold up that bowling ball for eight or 12 hours a day and you may have less energy to do whatever else you need to do.

**6. STRENGTHENS BONES** Many yoga poses involve weight bearing, which is well-documented to strengthen bones and help ward off osteoporosis. Unlike most other forms of exercise, poses such as Downward Facing Dog and arm balances place weight on the arm bones, which are common sites of osteoporotic fractures. An unpublished study done at California State University, Los Angeles found that yoga practice

increased bone density in the vertebrae in part due to weight-bearing in asana. In addition, yoga's documented ability to lower levels of the stress hormone cortisol may help keep calcium in the bones.

## **Circulatory**

Asana practice, in particular, can stimulate blood flow throughout the body. The heart gets stronger, blood vessels relax improving blood flow and even the blood itself is changed in health promoting ways.

**7. IMPROVES OXYGEN DELIVERY TO CELLS** Cells function better when they get a good supply of oxygen which is delivered via the blood. Yogic relaxation has been shown to increase blood flow to the periphery of the body, such as the hands and feet. Twisting poses are thought to wring out venous blood from internal organs, allowing oxygenated blood to flow in once the twist is released. Yoga also boosts levels of hemoglobin and red blood cells, the carriers of oxygen to the tissues.

**8. IMPROVES RETURN OF VENOUS BLOOD** Veins depend on movement of adjacent areas of the body as happens in asana to milk blood back from the periphery to the center. Due to gravitational effects, inversions encourage venous blood from the legs and pelvis to flow back to the heart where it can be pumped to the lungs to be freshly oxygenated. This can be especially beneficial for people with swelling in the legs due to heart or kidney problems.

**9. INCREASES DRAINAGE OF LYMPH** When you contract and stretch muscles, move organs around and come in and out of yoga postures, lymph flow improves. This benefits the lymphatic system in fighting infection and cancer and disposing of toxic waste products of cellular functioning.

**10. CONDITIONS CARDIOVASCULAR SYSTEM** From lowering the risk of heart attacks to relieving depression, aerobic exercise is a powerful force for prevention and healing. Not all asana is aerobic, but when done vigorously it certainly can be. Even yogic exercises that don't bring the heart rate into the aerobic range in intensity, however, can improve cardiovascular conditioning. Studies have found that yoga practice lowers the resting heart rate and increases endurance as well as the maximum uptake of oxygen during exercise, which are all reflections of improved aerobic conditioning.

One study found that subjects who were taught only pranayama could do more exercise with less need for oxygen.

**11. LOWERS BLOOD PRESSURE** The exercise and the weight loss that commonly accompany regular yoga practice tend to reduce blood pressure. Yogic relaxation, in particular, appears to lower elevated blood pressure. Two studies of people with hypertension, published in the British medical journal *The Lancet*, compared the effects of Savasana to simply lying on a couch. After three months of practice, Savasana was associated with a 26 point drop in systolic blood pressure (the top number) and a 15 point drop in the diastolic blood pressure (the bottom number). Of note, the higher the initial blood pressure, the bigger the drop with yoga.

**12. THINS BLOOD** Heart attacks and strokes are two of the top three killers in the modern industrial world. In most case it is a clot that blocks the blood flow. Yoga thins the blood by making platelets less sticky and by cutting the level of clot-promoting proteins in the blood.

### **Metabolic**

Although I've focused on cortisol below, there are dozens of other hormones in the body and preliminary evidence suggests that yoga affects the levels of many of them. Yoga also lowers cholesterol and helps facilitate weight loss.

**13. LOWER LEVELS OF THE STRESS HORMONE CORTISOL** The adrenal glands secrete cortisol in response to an acute crisis. The result is a temporary boost in immune function but if cortisol levels stay high immune function becomes compromised. Cortisol also aids the formation of long-term memory but chronically high levels undermines memory and may lead to permanent changes in the brain. An excess of cortisol also linked with major depression. Elevated cortisol can also contribute to osteoporosis by extracting calcium and other minerals from bones and interfering with the laying down of new bone.

Chronically high levels of cortisol can increase systolic and diastolic blood pressure and insulin resistance—all risk factors for heart disease. In rats, high cortisol levels lead to what researchers call “food-seeking behavior” and cause the body to lay down fat in the abdomen, further contributing to weight gain and the risk of a diabetes and heart attack.

By lowering cortisol levels, yoga can help with all of these problems.

- 14. FACILITATES HEALTHIER BODY WEIGHT** Yoga programs may also lead to weight loss by burning calories, encouraging a moderate intake of vegetarian food and by bringing a more conscious approach to eating. There can also be a spiritual and emotional dimension to weight problems that yoga addresses.
- 15. LOWERS BLOOD SUGAR** Yoga has been found to lower the blood sugar in people with diabetes. The effect may in part be due to lowering cortisol and adrenaline levels. Higher blood sugar levels increase the risk of such common diabetic complications as heart attacks, kidney failure and blindness. Yoga may also help lower high blood sugar levels via weight loss and improved sensitivity to the effects of insulin.
- 16. IMPROVES LEVELS OF CHOLESTEROL** Improved Levels of Cholesterol Yoga can lower blood cholesterol, a major risk factor for heart disease, as well LDL “bad” cholesterol and boost the level of HDL “good” cholesterol.
- 17. LOWERS LEVELS OF TRIGLYCERIDES** Levels of triglycerides, another form of blood fat linked to heart disease as well as other problems, has been shown to drop with yoga practice.

## The Nervous System

Yogis believe that when the breath is calmed, the nervous system relaxes as does the mind. In just the last few years, new technology such as functional MRI scans and more sensitive measurements of brain waves are increasing our understanding of how yoga works.

- 18. BALANCES THE NERVOUS SYSTEM** By facilitating relaxation, slowing the breath and encouraging a focus on the present moment, yoga can shift the balance from the sympathetic nervous system (SNS) to the parasympathetic nervous system (PNS). The SNS is designed to cope with emergencies and is commonly referred to as the “fight or flight” response and is chronically activated in many people. The PNS is more calming and restorative in nature, lowering the breathing and heart rates, decreasing blood pressure and increasing the blood flow to internal organs such as the intestines and reproductive organs. These effects comprise what Dr. Herbert Benson has dubbed the relaxation response.

**19. IMPROVES PROPRIOCEPTION** Proprioception is the ability to feel where parts of your body are in space, even with your eyes closed. Most people with bad posture or with dysfunctional movement patterns are unaware of them and poor proprioception has been linked to knee problems and back pain. The regular practice of asana, however, steadily builds the ability to feel what your body is doing. With awareness comes the possibility of making different choices.

**20. IMPROVES BALANCE** While strength can help an old person avoid a fall, you're probably a lot less likely to trip on the way to the bathroom in the middle of the night if you've improved your balance by regularly practicing asana like the tree pose. Better balance may not seem like a big deal until you consider that falls are a leading cause of hip fractures, the loss of independence and admission to a nursing home.

**21. INCREASES CONTROL OF BODILY FUNCTIONS** Some advanced yoga practitioners can control their bodies in extraordinary ways, many of which are mediated by the nervous system. Scientists have monitored yogis who on request could induce unusual



heart rhythms, generate specific brain waves patterns and, using a meditation technique, raise the temperature of their hands by 15 degrees F. If they can use yoga to do that, perhaps you could learn to improve blood flow to your pelvis if you're trying to get pregnant or induce relaxation when you're having trouble falling asleep.

## **22. CHANGES NEUROTRANSMITTER LEVELS**

A study at Benares Hindu University in India found that three and six month practices of yoga improved depression and lead to a significant rise in serotonin levels and a decrease in levels of monoamine oxidase and cortisol. All of these changes are in the direction we would expect to improve mood. Similar results have been documented with Transcendental Meditation (TM), a type of mantra meditation.

**23. CHANGES ACTIVITY IN THE BRAIN** Using a sophisticated type of brain scan called a functional MRI, which gauges blood flow to different areas of the brain, Dr. Richard Davidson of the University of Wisconsin found that the left prefrontal cortex showed heightened activity in people who meditate, a finding that has been correlated with greater levels of happiness and better immune function. More dramatic left-sided activation was found in dedicated, long-term practitioners. As this area of investigation is just beginning, expect to hear more about it in coming years.



**24. BUILDS AWARENESS OF MUSCULAR TENSION** Have you ever noticed yourself, for no apparent reason, holding a pencil, a telephone or a steering wheel with a death grip? Do you scrunch your face up when you stare at a computer? These unconscious habits can lead to chronic tension in the wrists, arms, shoulders, neck and face. Unnecessary gripping leads to muscle fatigue and soreness, which in turn can worsen your stress level and mood. The goal should be to only use the minimum amount of muscular tension necessary for any particular job.

As you practice yoga, you begin to notice where you hold tension as well as areas that you unconsciously contract when you concentrate. It might be in your tongue, your eyes or the muscles of your face and neck. With the tongue or the muscles around the eyes, if you simply tune in, you may be able to release some tension. With other muscles like the quadriceps, the trapezius and the buttocks, it may take years of asana practice to learn how to relax them.

**25. PROVIDES RESPITE FROM SENSORY OVERLOAD** Many people in the modern world are constantly overstimulated by sights and sounds and it can be jarring to the nervous system. Yoga is often done in a quiet setting with the lights dimmed. Such practices as restorative asana, yoga nidra (a form of guided relaxation), savasana (corpse pose) as well as pranayama and meditation encourage pratyahara, a turning



inward of the senses, that provides a kind of down-time for the nervous system. Yogis insist that the calm that you find in your practice can spread to the rest of your life.

## Organ Function

Yoga seems to help a number of organs and systems in the body function more optimally.

**26. IMPROVES IMMUNE FUNCTION** Many yoga practices including asana and pranayama are likely to improve immune function but, to date, meditation has the strongest scientific support. Meditation appears to both increase immunity in instances where that's helpful, for example increasing antibody levels in response to a vaccine, and lower it in the case of autoimmune diseases, such as psoriasis, marked by inappropriately aggressive immune function.

**27. IMPROVES LUNG FUNCTION** Yogis tend to take fewer breaths of greater volume which is both calming and much more efficient for the body. A 1998 study, published in the *Lancet*, taught a yogic technique known as “complete breathing” to people with lung problems due to congestive heart failure. After one month, their average respiratory rate decreased from 13.4 breaths per minute to 7.6. Meanwhile, their

exercise capacity increased significantly as did the oxygen saturation of their blood. In addition, yoga practice has been shown to improve various measures of lung function including the maximum volume of the breath and the efficiency of the exhalation—in part explaining why it appears to be useful in asthma.

**28. IMPROVES BRAIN FUNCTION** Yoga has been shown to improve coordination, reaction time, memory, and even IQ scores. Students of TM have demonstrated improved problem-solving ability, better recall, and quicker acquisition of information. Besides helping the brain work better, yoga teaches how to focus attention. When we are less distracted by our thoughts, which can play over and over like an endless tape loop, we are better able to tune into the present.

**29. IMPROVES BOWEL FUNCTION** Stress reduction helps with intestinal problems like ulcers and irritable bowel syndrome. As with any physical exercise, asana practice can be beneficial for constipation—and theoretically lower the risk of colon cancer—because moving the body facilitates more rapid transport of food and waste products through the bowels. Although it has not been studied scientifically, yogis suspect that twisting poses may be especially beneficial in this regard.

### **Psychological/Spiritual**

From quieting the mind to helping the practitioner to find spiritual meaning, yoga has a number of benefits which not only are ends in themselves but which also can improve health.

**30. REDUCES MENTAL TENSION** Patanjali began the Yoga Sutras by stating that yoga quiets the fluctuations of the mind. In other words, it slows down the mental tape loops of frustration, regret, anger, fear and desire that can dominate thoughts and undermine well-being. Conventional medicine has increasingly recognizing the role of stress in medical problems and not just the obvious ones like migraines and insomnia. It's now implicated in lupus, MS, eczema, high blood pressure, heart attacks and dozens of other conditions.

**31. FOSTERS A THERAPEUTIC RELATIONSHIP** Just as a good doctor-patient relationship can be healing, a good partnership with a yoga teacher is likely to confer therapeutic benefit. Often teachers adjust students or touch them in ways to facilitate

relaxation or moving more deeply into the posture. Part of the benefit is related to the distinctly unscientific concept of love, which while hard to measure, undoubtedly facilitates healing.

- 32. ENCOURAGES SANGHA (INVOLVEMENT IN A COMMUNITY)** The emotional support of friends, family and one's community has been demonstrated repeatedly to improve health and healing.
- 33. INCREASES MENTAL STRENGTH/WILLPOWER** The ability to motivate students to make changes in their life may be one of yoga's greatest strengths. *Tapas*, the Sanskrit word for heat, is the fire, the rigor, the discipline that fuels yoga practice and which regular practice builds. Tapas developed in yoga can be extended to the rest of one's life, helping to overcome inertia and change dysfunctional habits.
- 34. INCREASES PSYCHOLOGICAL SELF-AWARENESS** A key aspect of yoga as described by Patanjali is self-study. As psychotherapist and yogi Stephan Cope put it in his book *Yoga and the Quest for True Self*: "Here is a systematic exploration of the unconscious that predates Freud by thousands of years." This monitoring can happen in asana practice but it is in meditation where self-study and the opportunity to transcend what the Dalai Lama calls "destructive emotions" is probably the greatest.
- 35. REDUCES ANGER AND HOSTILITY** Studies suggest that chronic anger and hostility are as strongly linked to heart attacks as smoking, diabetes and elevated cholesterol. Yoga appears to both reduce anger by increasing feelings of compassion and interconnection and, by calming the nervous system and the mind, lessening the likelihood of fanning the flames.
- 36. INCREASES EQUANIMITY** One of the most striking effects of yoga practice is the heightened ability to step back from the drama of your own life, to not be so rocked by bad news or an unsettling event. You can still react quickly when you need to—and the evidence is that yoga speeds reaction time—but it also allows you that split second to decide not to react or to choose a more thoughtful approach—reducing suffering for yourself and others.
- 37. INCREASES SELF-ESTEEM** People who have what used to be called an "inferiority

complex” may numb their pain by overindulging in transient pleasures like drug use, overeating or promiscuity, and may pay a price in poorer health physically, mentally, and spiritually. Yoga gives regular practitioners the sense, initially in brief glimpses, and later in more sustained view, that they are worthwhile or, as its philosophy teaches, that they are manifestations of the divine.

- 38. ENCOURAGES SPIRITUAL GROWTH** The regular practice of yoga, particularly when it is done with an intention of self-examination and betterment—and not just as a substitute for an aerobics class—can put practitioners in touch with a different side of themselves. Among the spiritual aspects that yoga fosters are feelings of gratitude, empathy, forgiveness and the sense that you’re part of something bigger than yourself. While better health is not the goal of spirituality, repeated scientific studies have documented this effect.
- 39. IMPROVES RELATIONSHIPS** Among the benefits that Patanjali attributes to regular yoga practice are friendliness, compassion and, as mentioned, equanimity. Moral injunctions to avoid harming others, tell the truth and only take what you need can lead to smoother sailing in interpersonal relationships and in the workplace.
- 40. IMPROVES HABITS** Studies confirm what many people who practice yoga discover: their habits improve. Sometimes without making a particular effort to change things, they start to eat better, walk regularly or finally quit smoking after years of failed attempts.
- 41. THE PLACEBO EFFECT** Just believing you will get better can make you better. Unfortunately, many conventional scientists act as if something works by eliciting the placebo effect that it somehow doesn’t count. But most patients just want to get better. If chanting a mantra facilitates healing, even if it is just the placebo effect, why not do it?
- 42. ENCOURAGES OWNERSHIP OF YOUR OWN HEALING** In much of conventional medicine, patients are passive recipients of care. In yoga, the essential element is not what is done to you but what you do for yourself. Yoga gives people concrete steps they can take and most people start to feel better the very first time they try it. They also observe that the more they commit to the practice, the greater the benefits tend to be. This not only involves them in their own care, it gives them the message that there is hope and hope itself can be healing.

## Benefits of Specific Practices

In addition to the benefits of asana, pranayama and mediation discussed above, certain yoga practices such as chanting, imagery and selfless service have specific benefits.

**43. HEALING EFFECTS OF SOUND** Chanting tends to prolong exhalation, which shifts the balance more toward the parasympathetic nervous system. Particularly when it's done in a group, chanting can be a powerful physical and emotional experience. A recent study from Sweden's Karolinska Institute suggests that the humming sounds—like those one makes while chanting Om—open the sinuses, facilitating drainage.

**44. HEALING EFFECTS OF IMAGERY/VISUALIZATION** Contemplating an image in the mind's eye, as is found in yoga nidra and other practices, can effect change in the body. Studies have found that guided imagery reduced postoperative pain, cut headaches and improved quality of life in people with cancer and HIV.

**45. HEALING EFFECTS OF SELFLESS SERVICE** While not everyone who does yoga adopts this ethic, the concept of “*karma yoga*” is integral to yogic philosophy. A University of Michigan study found of older people who volunteered a little under an hour per week were three times as likely to be alive seven years later. Doing service can give meaning to your life and your problems may not seem so daunting when you see what others are dealing with.

## 46. THE NETI POTS CLEANS NASAL PASSAGES

Yoga includes in its toolbox many kriyas, or cleansing practices. They include everything from rapid breathing exercises to elaborate internal cleansings of the intestines. One that many Western yoga





students have taken to is jala neti, a gentle lavage of nasal passages with salt-water. Often done with a small ceramic neti pot, this kriya removes pollen and viruses from the nose, keeps mucus from building up and helps the sinuses drain.

### **And a Few More...**

Below are a few therapeutic and preventive benefits of yoga practice that don't fit neatly into the other categories.

**47. CUTS MOUTH BREATHING** Yoga promotes breathing through the nose which filters, warms and humidifies the air, removing pollen, dirt and other things you'd just as soon not take into your lungs. Cold, dry air is more likely to trigger an asthma attack in people who are sensitive.

**48. IMPROVES SLEEP** Studies suggest that yoga can improve the ability to sleep. Better sleep can have ripple effects on health as insomnia can lead to fatigue, accidents and higher levels of stress.

**49. RELIEVES PAIN** Various studies have found that either asana, meditation or a combination of the two reduces pain in people with arthritis, back pain, fibromyalgia, carpal tunnel syndrome and other chronic conditions. Pain relief facilitates healing by lifting mood, encouraging activity and reducing the need for medication.

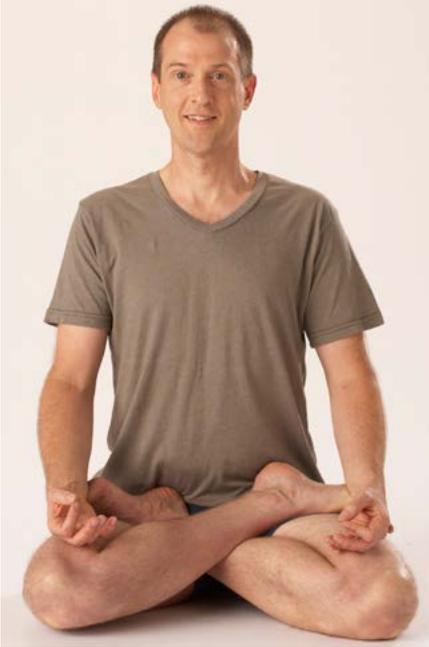
**50. LOWERS NEED FOR MEDICATION** Studies on people with asthma, high blood pressure, Type 2 (formerly called adult-onset) diabetes and obsessive-compulsive disorder have demonstrated that yoga can allow patients to lower their dosage of

medications and sometimes to get off of them entirely. In addition to lowering expenses, fewer drugs means less risk of side effects and dangerous drug interactions.

As you read through these 50 ways yoga benefits health, you probably noticed a lot of overlap. While for the purposes of understanding I've separated the mechanisms, in reality they are intensely interwoven. Change your posture and you change the way you breathe. Change your breathing and you change your nervous system. This, of course, is one of the great lessons of yoga: Everything is connected—your hip bone to your knee bone and you to your community and world.

Interconnections are also vital to understanding how yoga works. This holistic system simultaneously taps into dozens of mechanisms that have additive and even multiplicative effects. This kind of synergy may be the most important way of all that yoga heals.

## About the Author



Timothy McCall, MD is a board-certified internist, Medical Editor of *Yoga Journal* since 2002, and author of the bestselling *Yoga as Medicine: The Yogic Prescription for Health and Healing* (Bantam). His first book was the critically acclaimed, *Examining Your Doctor: A Patient's Guide to Avoiding Harmful Medical Care* (Citadel Press). He serves on the editorial board of *The International Journal of Yoga Therapy*, and co-edited and contributed to the 2016 medical textbook, *The Principles and Practice of Yoga in Health Care* (Handspring Publishing). His most recent book is *Saving My Neck: A Doctor's East/West Journey through Cancer* (Whole World Publishing).

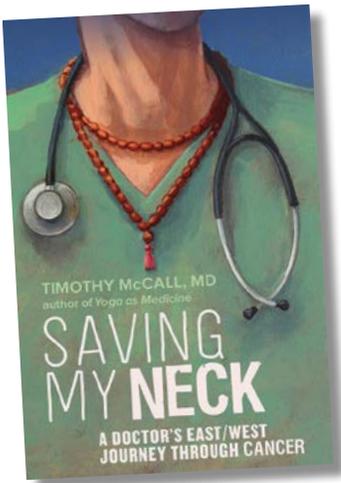
Dr. McCall practiced medicine in the Boston area for a dozen years before devoting himself in the late 1990s to yoga therapy. He has studied yoga with BKS Iyengar and TKV Desikachar, and also with Patricia Walden, Rod Stryker, and Donald Moyer. He studied Ayurveda as an apprentice and patient of a traditional Ayurvedic doctor, Chandukutty Vaidyar, at his clinic in Kerala, India.

His articles have appeared in dozens of publications, including *The New England Journal of Medicine*, *JAMA*, *The Los Angeles Times* and *The Nation*. From 1996 to 2001, his medical commentaries were featured on the public radio program *Marketplace*. He has given numerous workshops and keynote addresses at conferences sponsored by the National Institutes of Health, *Yoga Journal*, the International Association of Yoga Therapists, and the Smithsonian Institution.

Timothy is the founder and director of the Yoga As Medicine® Seminars and Teacher Trainings. He lives in Burlington, Vermont and lectures and teaches around the world.

[www.DrMcCall.com](http://www.DrMcCall.com)

Photos from *Yoga as Medicine* and author photo by Michal Venera  
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# PRAISE FOR

## *Saving My Neck* A Doctor's East/West Journey Through Cancer



"A moving personal testimony to the wisdom and effectiveness of a holistic approach to cancer. As he achieves physical well-being and deeper self-knowledge, Timothy McCall, a distinguished physician-yogi, provides an inspiring example and guidance for all of us who may deal with the challenge of cancer."

— James S. Gordon, MD, author of *Unstuck: Your Guide to the Seven-Stage Journey Out of Depression*, and Founder and Executive Director of The Center for Mind-Body Medicine.

"Dr. Timothy McCall's new book documents his life-changing journey using Ayurvedic and Western medicine to cure his cancer. It is a guide that will change your life."

—Dr. John Douillard, DC CAP, bestselling author of *Eat Wheat: A Scientific and Clinically-Proven Approach to Safely Bringing Wheat and Dairy Back Into Your Diet and Body, Mind, and Sport: The Mind-Body Guide to Lifelong Health, Fitness, and Your Personal Best* and founder of LifeSpa.com

"Authoritative, compelling, and down-to-earth, *Saving My Neck* is also surprisingly relatable, even if one shares neither Dr. McCall's background, diagnosis or prognosis, because it helps us more deftly explore and navigate our own experiences with health, patient advocacy, medicine and mortality. I love this book, have highlighted many full pages of it, and expect to recommend it to many."

—Dr. Claudia Welch, DOM, author of *Balance Your Hormones, Balance Your Life: Achieving Optimal Health and Wellness Through Ayurveda, Chinese Medicine and Western Science* and *The Four Qualities of Effective Physicians: Practical Ayurvedic Wisdom for Modern Physicians*

"In this engaging memoir, Dr. Timothy McCall shows how he combined state-of-the-art scientific medicine with a variety of holistic healing tools, in order to address the many aspects of body, mind and spirit that modern medicine tends to neglect. This kind of integrative approach is the future of health care, and as this book deftly illustrates, it can be the present, too."

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"There is so much wisdom in this heartfelt, moving, and deeply personal book. Dr. Timothy McCall takes us on a colorful journey from South India through the halls of American hospitals. He deftly describes how he wove together the best of conventional and complementary medicine into a treatment plan that was both safe and effective."

— Lorenzo Cohen, PhD, Professor and Director, Integrative Medicine Program, MD Anderson Cancer Center; Co-Author, *Anticancer Living: Transform Your Life and Health with the Mix of Six*

"This is the first book I would give a friend recently diagnosed with cancer, IF my friend was open to both conventional and traditional healing methods—such as Yoga, Ayurveda and Traditional Chinese Medicine—AND, most importantly, willing to be an active participant in his or her own healthcare. If so, this is a wonderfully inspiring and educational resource. For traditional healing practitioners and researchers, this book is also an excellent education into why Evidence-Based Medicine does not appropriately or fairly evaluate those methods."

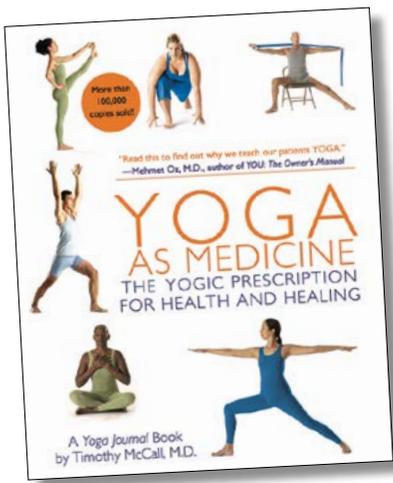
— John Kepner, Executive Director, International Association of Yoga Therapists

"*Saving My Neck* is a must read for yoga therapists, and for their clients. I also recommend it to anyone with cancer or any other serious illness, who is looking for complementary and integrative healing, and to clinicians who are looking to provide such care."

— Dr. Sat Bir Singh Khalsa, PhD, Assistant Professor of Medicine, Harvard Medical School; Editor in Chief, *International Journal of Yoga Therapy*; Research Director, Yoga Alliance; Chief Editor, *The Principles and Practice of Yoga in Health Care*

"A masterpiece written from the heart."

— Dr. Dilip Sarkar, MD, FACS, DLitt (Yoga), Associate Professor of Surgery (Retired), Eastern Virginia Medical School; Fellow, American Association of Integrative Medicine (AAIM); Fellow, American College of Surgeons (ACS); Past President, Board of Directors, International Association of Yoga Therapists



# PRAISE FOR

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### *The Yogic Prescription for Health and Healing*



"*Yoga as Medicine* is a powerfully clear, accessible and practical guide to creating a vibrantly healthy body, mind, and spirit. What a tremendous contribution to healing and human potential!"

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Professor of Medicine emeritus, University of Massachusetts Medical School, author of *Wherever You Go, There You Are*

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Founder and Director, The Center for Mind-Body Medicine, author of *Manifesto for a New Medicine*

"This is a landmark book. *Yoga as Medicine* provides a remarkable perspective on the breadth and depth of Yoga therapy, and many leading practitioners, both in the West and India, in a uniquely educational, engaging, and inspiring way."

– John Kepner,  
Executive Director, International Association of Yoga Therapists

"Timothy McCall skillfully introduces us into the vast universe of yogic healing, affording access to compelling new models of balance and wholeness for body, mind and spirit."

– Dr. David Frawley,  
author of *Yoga and Ayurveda*

"*Yoga as Medicine* is beautifully organized and presented, making it instantly readable and practical for anyone desiring better health or immediate help with a particular problem."

– Christiane Northrup, MD  
author of *The Wisdom of Menopause*

"The next best thing to having the doctor right there beside you. An instant classic."

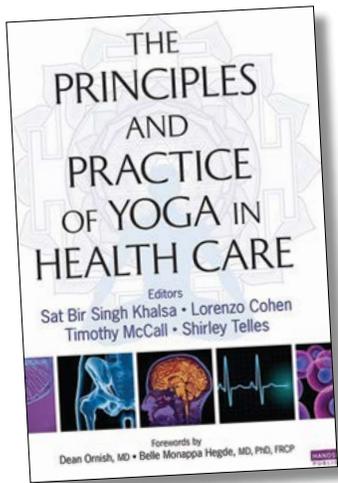
– Richard Rosen, author of *The Yoga of Breath*

"McCall's fine articulation of yoga's healing potential will appeal to a large audience of instructors, students, physicians and their patients."

– *Publishers Weekly* (Starred Review)

"Read this to find out why we teach our patients YOGA."

– Mehmet Oz, MD,  
Professor and Vice Chairman,  
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# *The Principles and Practice of Yoga in Health Care*

"This is an extraordinary book. The authors have curated an extensive selection of research, providing the first state-of-the-art review of yoga therapy as an edited, scholarly, medically oriented textbook with a strong evidence-based focus on research and practice. There is strong representation internationally from both leading yoga researchers and yoga therapists."

– Dean Ornish, MD,  
Founder and President,  
Preventive Medicine Research Institute, Clinical Professor of  
Medicine, University of California, San Francisco,  
author of *Dr. Dean Ornish's Program for Reversing Heart  
Disease*

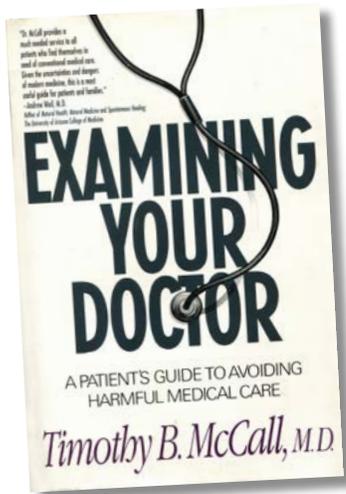
"The efforts of this group of researchers to put together a textbook of the yogic sciences is a timely contribution to bring yogic sciences to mainstream healing efforts. The many leading international yoga researchers who have contributed to this volume have presented the scientific rationale for yoga therapy and the existing published biomedical research evidence in a rigorous and comprehensive manner that will be appreciated by both conventional and integrative medicine researchers and clinicians, and the contribution of leading yoga therapists on practical clinical applications is invaluable. Given that this is the first textbook of its kind, it fills an important need, and will therefore serve a significant role for health care and healing in modern society."

– Professor Belle Monappa Hegde MD, PhD, FRCP  
Padma Bhushan Awardee 2010  
Cardiologist & Former Vice Chancellor  
Manipal University, India

"As health professionals, yoga therapist, and practitioners of yoga consider how to integrate yoga into healthcare, there is a need to evaluate and compile the yoga literature to date. This book...fulfills this need by sifting through published studies and producing an impressive medical textbook and reference on yoga therapy. Numerous authors from the fields of research and yoga therapy contributed their expertise in creating a compendium of yoga as applied to healthcare.

This is the first medically oriented textbook of yoga that comprehensively reviews the scientific literature of yoga for healthcare. It will be the standard reference for medical evidence of yoga therapy. Yoga therapy and research continues to grow, and this book presents the culmination and impact of yoga therapy today."

– Gurjeet S. Birdee, M.D., M.P.H.  
Assistant Professor of Internal Medicine, Pediatrics  
Vanderbilt University Medical Center



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"Timothy McCall is wonderful. He understands people, and better still, he cares. Examining Your Doctor enables you to avoid the traps that lurk every time you visit the doctor. The drug chapter alone is worth the price of admission. Don't leave home without it."

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author of *The People's Pharmacy*

"This is one of the few books of its genre that I can warmly recommend to the general public. It is honest, well-informed, and full of good, sensible advice."

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Harvard Medical School,  
Emeritus Editor-in-Chief,  
*The New England Journal of Medicine*

"Frank, provocative, and comprehensive, this book offers the lay reader a rare glimpse of the world on the other side of the stethoscope."

– *The Journal of the American Medical Association*

"Whether for ferreting out questionable medical practices or deepening respect for individual practitioners, this is an engaging and useful resource."

– *Booklist*

"This is the rare book endorsed both by mainstream authorities and by health care activists."

– *The Detroit Free Press*

"Dr. McCall provides a much needed service to all patients who find themselves in need of conventional medical care...Given the uncertainties and dangers of modern medicine, this is a most useful guide for patients and families."

– Andrew Weil, MD,  
University of Arizona College of Medicine,  
author of *Spontaneous Healing*

"The surprising thing to me about "Examining Your Doctor" was how readable it is...a book to be kept and reread."

– *The Atlanta Journal Constitution*

"One of our best finds...very informative and accessible."

– *The National Women's Health Network*

"A means to balance the often lopsided power equation of patient and physician."

– *Publishers Weekly*

"An easy-to-read, sophisticated discussion of how to judge the quality of your medical care and get what's best for you. Highly recommended for doctors as well as patients."

– Richard Feinbloom, MD,  
Former Director, Family Health Care Program, Harvard Medical School

"McCall's book is meant to help patients expect—and get—the very best from their physicians, even in these days of impersonal HMOs and shrinking medical choices."

– *The Philadelphia Inquirer*

"The ultimate guide in taking control of your medical care, this is truly a book that will pay for itself over and over."

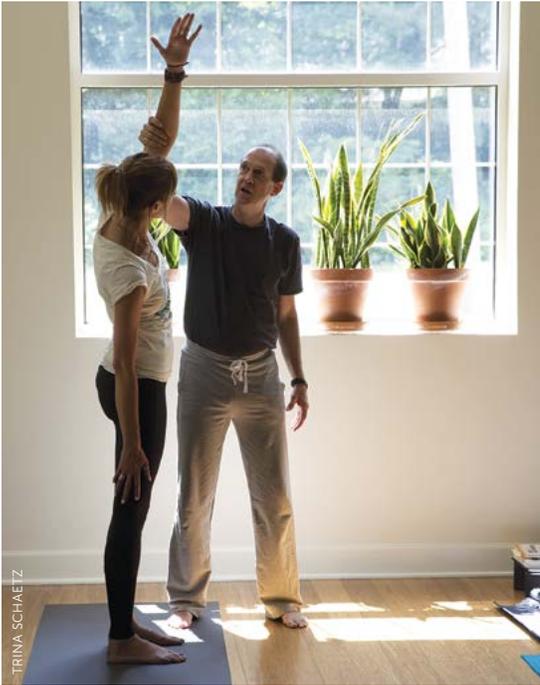
– *Newsday*

**NB: Due to the publisher's bankruptcy, this book is long-since out of print. Subscribers to Timothy's email newsletter, however, will receive a free copy of the chapter, "Is Your Doctor Prescribing the Right Drugs?"**

<http://www.drmccall.com/subscribe.html>

# Yoga as Medicine®

## Seminars and Teacher Trainings



Periodically, Timothy teaches seminars on yoga therapy in various locations around the world. His flagship course is a 5-day, 30-hour, hands-on, roll-up-your-sleeves training called Yoga As Medicine (YAM), Level 1. It is recommended for yoga students, yoga teachers and aspiring yoga therapists, as well as health care professionals and holistic healers. He also teaches more advanced YAM seminars as well as courses in what he calls “holistic yoga anatomy.”

For more information and a schedule of upcoming offerings, please see [www.DrMcCall.com](http://www.DrMcCall.com), or sign up for Dr. Timothy’s free email newsletter.



[www.drmccall.com/yoga-as-medicine-level-1.html](http://www.drmccall.com/yoga-as-medicine-level-1.html)



<http://www.drmccall.com/subscribe.html>

# Sample *Saving My Neck*



In 1997, Timothy McCall, MD left a successful medical career to become a yoga therapist. Twenty years later, diagnosed with metastatic cancer, he returned his focus to the practice of medicine, this time as a patient. He would need all he had learned in both healing worlds...

Dr. McCall, *Yoga Journal's* medical editor and author of the Amazon #1 Bestseller *Yoga As Medicine*, leads us on a surprise-filled journey from South India to the US and back, from banana, jackfruit and coconut groves to sterile hospital wards. Part memoir and part meditation on holistic healing, *Saving My Neck: A Doctor's East/West Journey through Cancer* is for yogis and non-yogis alike. It's for healthcare professionals, holistic healers and those facing health challenges — and anyone who loves a good story.

Click [here](#) to get a PDF of the introductory chapter of Dr. McCall's 2019 book *Saving My Neck: A Doctor's East/West Journey Through Cancer*. This is a full-color version, identical to that found in the Hardcover, which like *50 Ways to Heal a Yogi*, includes photographs taken by Timothy in India.