

YOGA AS INTEGRATIVE MEDICINE



YOGA SUTRAS MEET GRAY'S ANATOMY

MARY DURYEA MD

C-IAYT, E-RYT 500

This book discusses yoga teachings while correlating them with anatomy and physiology concepts from Western medicine. Yoga therapy is presented as a valuable addition to integrative medicine, holistic health, and individual self-care.

YOGA AS INTEGRATIVE MEDICINE: YOGA SUTRAS MEET GRAY'S ANATOMY

By Mary Duryea MD

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Chapter One: East Meets West

"We live in succession, in division, in parts, in particles. Meantime within man is the soul of the whole; the wise silence; the universal beauty, to which every part and particle is equally related; the eternal ONE."

~ The Over-Soul by Ralph Waldo Emerson

An Invitation to Contemplation

Yoga has become immensely popular in recent years and gained status around the world. Millions of people strongly embrace the practice as a form of physical fitness and stress reduction. Images of yoga now permeate our modern society, with media depictions being commonplace compared with twenty years ago. Numerous studios and teacher training programs have sprung up worldwide. Yoga has been commercialized through social media, exotic retreats, fashionable clothing, cool mats, and new props. Being widely practiced around the world, yoga has justifiably earned dual citizenship, at home both in the East and in the West. Fortunately, the newly emerging field of yoga therapy is also becoming an accepted part of Western integrative medicine.

Why are so many people embracing yoga and willing to spend time and money on it? Because adopting yoga practices as lifestyle habits may improve one's sense of well-being and contentment, as well as fill a void in self-nurturing that exists for many of us. Often, right from the start, the physical practice of yoga will initiate a greater sense of health and ease in the body. With continued time, commitment, and a deeper understanding

of the teachings of yoga, a sense of mental, emotional, and spiritual well-being may also emerge. This ability for an individual to self-nurture through the practice of yoga is likely to improve overall health and quality of life.

Having been around for thousands of years in its various forms, yoga is clearly here to stay. Yoga appeals to many people with a wide variety of backgrounds. Why is this true? What are some of its traditional teachings? What are the tools used to achieve a more holistic progression toward improved health? What exactly is being taught and how does it work? What are some potential cautions related to yoga practices? These are some of the questions I address in this book through the lens of my experience as a Western medicine physician.

I want to appeal to healthcare providers who recommend yoga to learn more about it, so yoga becomes less esoteric. I also want to appeal to inquisitive yoga teachers who wish to integrate Western medical concepts into yoga teachings, and perhaps pass this knowledge on to their clients. In parts of this book, yogic concepts are correlated with teachings of anatomy and physiology from Western medicine. I have endeavored to use straightforward language so that both the Western medical terms and the yogic concepts make sense to the general reader. My goal for this book is to help medical professionals better understand yoga, to help the yoga practitioner better understand Western medicine, and to help everyone appreciate the power of yoga to enhance the human experience.

I also want to advocate for yoga therapy as a key component of integrative medicine, which combines traditional Western medicine with other techniques to improve the overall health of

the individual. The National Institutes of Health (NIH) website states:

“Integrative healthcare often brings conventional and complementary approaches together in a coordinated way. It emphasizes a holistic, patient-focused approach to healthcare and wellness—often including mental, emotional, functional, spiritual, social, and community aspects—and treating the whole person rather than, for example, one organ system. It aims for well-coordinated care between different providers and institutions.”ⁱ

Note that this definition does not involve just physical well-being, but also “mental, emotional, functional, spiritual, social, and community aspects.” Yoga addresses each of these aspects of an individual. I find it particularly gratifying that “spiritual” was included in this NIH definition. Spirituality was originally the primary focus and most important aspect of yoga. Traditionally, spirituality has not been emphasized in Western medicine. Yoga may help fill this “spirituality gap” in modern medical healthcare. And although yoga addresses this topic, yoga is not a religion and can be practiced by anyone regardless of religious beliefs.

I envision yoga therapy as a growing part of integrative medicine, in which a variety of professionals each bring their own unique skill set for care of the patient. Integrative medicine is rather like a healthcare “stew.” If a variety of high-quality ingredients—that is, qualified healthcare professionals—is incorporated into healthcare, then the final product, namely the health of the patient, benefits. Yoga also empowers patients to take an active role in their own self-care. Once learned, yoga can be practiced by virtually anyone, anywhere, anytime and takes little space, time, or money.

In this informative book, I share my own personal journey of training in Western medicine and later learning about yoga. Some concepts from ancient texts and teachings, including the *Yoga Sutras*, are presented. Ayurvedic medicine, which is an Eastern style of holistic medicine that has been practiced in India for thousands of years—sometimes called the sister science of yoga—will also be introduced. The chapter on ayurvedic medicine discusses the *doshas*, three groupings of bioenergetic traits that combine to characterize the physical, emotional, and mental characteristics of each individual. The determination of an individual's dosha type helps guide ayurvedic physicians and yoga therapists in choosing specific therapies to promote well-being.

Yogic teachings—including the energy centers (*chakras*), energy channels (*nadis*), and layers or aspects of individuals (*koshas*)—are discussed in the chapters that follow. Techniques regarding postures (*asanas*), breathing (*pranayama*), and meditation will be presented. The physiology of the autonomic nervous system, which works in the background to control many body functions, will be linked to various yoga practices. I also touch on some recent fascinating scientific studies that have demonstrated benefits of the practice of yoga and meditation. Case studies at the end of the book are intended to tie everything together as real-life examples of practical use.

I recommend that those who are new to these concepts try to avoid getting caught up in the terminology, and instead consider the broader ideas being presented. I place Sanskrit words in italics when introduced, except for some of the more common Sanskrit words such as *asana* (postures) and *pranayama* (breath). Sometimes, Latin words used in medical

terminology or Sanskrit terms found in yoga can be intimidating when unfamiliar. I recommend that you keep reading and try to see the relationships presented, instead of trying to memorize unfamiliar terms. Think of this book as a “holistic” read rather than a textbook.

My hope is that you will find these subjects as fascinating as I do and find that the tools presented are practical for use in your own daily life. I admit that I was initially skeptical of some concepts such as the *chakras* when I first learned about them. But I have gradually merged my worldview and medical knowledge of anatomy and physiology with the teachings of yoga. This integration has allowed various concepts to make sense to me now. My hope is that this book will do the same for you.

A Brief History

The ancient practice of yoga, originating approximately 5000 years ago in India, started migrating to the Western world in the 19th century.ⁱⁱ Ralph Waldo Emerson, who had studied translations of ancient Hindu texts including the *Bhagavad Gita*, was influential in this migration. He published his essay “Nature” in 1836, which spearheaded the American Transcendentalist movement. His poem “Brahma” later appeared in the newly formed *Atlantic Monthly* in 1857, reflecting his concepts of Hindu spirituality.

Emerson heavily influenced Henry David Thoreau, who was perhaps the first American to consider himself a practicing yogi. Thoreau wrote *Walden* while living on land owned by Emerson. These two influential Transcendentalists favored individual

exploration of spirituality, especially utilizing the presence of nature rather than religious dogma.

Perhaps the first person traditionally trained in India to introduce yoga to the West was Swami Vivekananda, a young monk from Kolkata (Calcutta). In 1894 he attended the World's Fair and the Parliament of the World's Religions in Chicago. A powerful speaker, he electrified audiences while speaking about yoga, Hinduism, and India. He continued on an influential tour of the US and published *Raja Yoga* in 1896, interpreting and translating from Sanskrit the teachings from Patanjali's *Yoga Sutras*.

Turning now to the history of Western medicine, the classic textbook *Gray's Anatomy* was first published in 1858, the work of Dr. Henry Gray and his coworker and illustrator Dr. Henry Vandyke Carter. A few years before, the Anatomy Act of 1832 had been passed in England. Prior to this, it was illegal to dissect any human bodies except for executed murderers. Now having legal access to corpses, these two talented men dedicated many hours to the cadaver lab. Dr. Carter helped with dissections and produced the meticulously accurate and beautiful illustrations. The book *Gray's Anatomy* was an instant best seller, and subsequent editions have been used by generations of medical students as an integral part of their training.

Dr. Gray unfortunately died from smallpox at the youthful age of 34. Dr. Carter, who was never given due credit or proper financial reward for his work on the book, left England to practice medicine in Mumbai (Bombay) with the Indian Medical Service. Dr. Carter represents an early example of Western and Eastern medicine co-mingling and sharing knowledge, including his

profound expertise in anatomy. After 30 years he returned to England and died at the age of 65 from tuberculosis.

The fascinating Indra Devi, born in Russia in 1899 and originally named Eugenie V. Peterson, was influential in spreading yoga throughout the Western world. When she was a teen, she and her mother fled Russia for Berlin during the Bolshevik Revolution. In her twenties she moved to India, changing her name to Indra Devi for a successful career as a film star. In 1937 she stayed with the Maharaja and Maharini of Mysuru (Mysore) and met Sri Krishnamacharya, who ran a yoga school sponsored by the palace. She requested to be taught yoga, but initially was refused because she was both a Westerner and female. Yoga at that time had traditionally been considered a practice for men.

Eventually the Maharaja persuaded Sri Krishnamacharya to take Indra Devi as a student. Dedicating herself to the practice, in time she impressed Sri Krishnamacharya. He subsequently encouraged the multilingual Devi to go out into the world and spread the teachings of yoga. After a stint teaching in China, she introduced yoga to Hollywood around 1947 and taught many of the stars, including Gloria Swanson and Greta Garbo. She went on to travel and teach worldwide, as documented in Michelle Goldberg's fascinating *The Goddess Pose: The Audacious Life of Indra Devi, the Woman Who Helped Bring Yoga to the West*. Indra Devi died at the age of 102 in Argentina, where she was much beloved.

Another interesting and more controversial influence on yoga in the United States was Pierre Bernard. Born in Iowa in 1875, his birthname was Perry Arnold Baker. When he was a teenager living in Lincoln, Nebraska, he was introduced to tantric

yoga by his neighbor. Baker embraced this style of yoga, studying and traveling with this mentor for years. Baker eventually changed his name to Pierre Bernard and opened a yoga school in New York City. Accused of misdeeds with a young female student in 1910, the notoriety caused him to leave the city and establish a country club style ashram on the Hudson River. He ran this lavish complex for years catering to the rich, including the Vanderbilts who helped bankroll him.

The Great Oom by Robert Love explores the enigmatic life of Pierre Bernard, who died in 1955. Bernard's story represents the intersection of capitalism, mysticism, celebrity, and tantric yoga. The sexual scandals also demonstrate his possible abuse of ethical responsibilities as a teacher. Bernard's story is a precursor of more recent episodes involving allegations of exploitation and sexual abuse by some gurus and senior teachers at certain schools or ashrams. Students should be cautioned to decide for themselves what practices and beliefs promote their own personal health and well-being. Blindly accepting instructions from a mentor as dogma may lead to unhealthy relationships, coercion, and traumatic experiences. Manipulating students from a position of power is unacceptable and certainly contradicts the true teachings of yoga.

Moving on in history, during the Vietnam war era and the rising social protests of the 1960's, yoga experienced a resurgence in popularity in the Western world. Exposure to the culture of India was fueled by the interest of the Beatles, the hippie era, and the music of Ravi Shankar. Young Americans and Europeans started traveling to India to study yoga with proteges of Sri Krishnamacharya and other gurus. In turn, these

travelers have become some of the more famous senior yogis teaching worldwide today.

Spreading the Positive Benefits of Yoga

I have personally embraced incorporating yoga into my lifestyle for its physical health benefits. My relationship to stress has been transformed, and I am kinder and more content. Being mindful of the philosophical teachings has also improved me as a human being. I have learned to love and nurture myself, and in turn I am more loving to those around me.

I believe that each of us is a unique individual, yet we are all connected energetically. Our thoughts influence our attitudes, emotions, and actions toward those we are in contact with. In turn, other people's thoughts, emotions, and actions affect us too. These interactions can have a snowball effect, promoting anger and hostility for example, or they can promote kindness and compassion. By choosing more positive ways of thinking and attitudes in life, such as those taught in yoga, we tend to be more loving within ourselves and in our actions. This energetic effect produced by our attitude can rebound and positively benefit the world around us.

My body, mind, and soul treasure this precious gift of life with its ups and downs, unfolding moment by moment. I invite you to explore the teachings of yoga, then to integrate the practice of yoga into your lifestyle. You are likely to experience a more holistic sense of your body, mind, and spirit, leading to greater equanimity and ease. You potentially hold the power to not only improve your physical and mental health, but also to enrich your spirituality in profound ways.

Chapter Two: A Physician's Perspective on Yoga

Yoga Sutras Meet Gray's Anatomy

Gray's Anatomy, as mentioned, is a classic textbook originally published in 1858. It has been widely used by students of anatomy, as I did in my graduate medical programs. The *Yoga Sutras* by Patanjali is a short book of aphorisms written somewhere between 500 BCE and 400 CE. The *Yoga Sutras* presents a concise overview of some of the traditional teachings of yoga that had been passed down through the ages. I include more about the *Yoga Sutras* in the next chapter. Both these texts have been influential to me and countless other students of anatomy and yoga.

My background as a healthcare professional has influenced my own unique outlook toward yoga, perceived largely through the lens of anatomy and physiology. My first real job was working as an orthopedic physician assistant (PA) for five years, which was a wonderful and challenging career. The practice I worked in was extremely busy with inpatient (hospital) rounds, emergency room care, and clinic responsibilities. In addition to learning about fracture care, arthritis, joint replacements, reading X-rays, and casting, I learned about the healing process.

Orthopedic issues or injuries can affect the whole body. It is not just one joint that is the problem: a hip or knee or back problem also affects the body elsewhere. The initial issue or injury may negatively influence your posture, the ability to perform various activities of daily living, and the ability to exercise for fitness. Thus, overall health may decline. Abnormal

posture from an injury or arthritis places more stress on other joints in the body. Your fascia, or connective tissue, can “deform” and get stuck in this abnormal position over time. This cinching effect from poor posture by our connective tissue can create a vicious cycle, aggravating or even causing other orthopedic problems.

A patient’s inability to do certain activities of daily life can cause a loss of independence as well as affect their relationships. Over time, the physical and mental stress of managing injuries and chronic pain often leads to a dependence on others for care of the home, driving, shopping, and personal hygiene. A patient may start to experience mental health issues including excessive anger, depression, and loss of self-esteem, which is likely to also be hard on the caregivers. In addition, pain control and dependency on pain prescriptions, along with their side-effects, can be negative contributing factors to the lifestyle, activity level, and mood changes in the patient. To summarize, in my job as a PA, I learned the initial injury or arthritic joint can affect many aspects of the patient’s life: other parts of the body, the patient’s activities and dependency on others, medications and their side-effects, lifestyle, and mental health. My exposure to this way of thinking about a patient holistically would influence my future choices in life.

Professionally, I eventually felt drawn to expand my knowledge and returned to school to study for a medical degree. Since I was more interested in working with the entire body rather than in a sub-specialty, I chose family practice for my residency training. Family practice often involves caring for several members of a family such as spouses, children, grandparents, and siblings. When I saw someone as a patient, I would often

know what was going on with other family members too. These relationships, including the family's attitudes toward illness and each other, can influence the health of each individual. I saw that a variety of other factors—type of diet, activity level, prescription use, emotional and mental stress—all contribute to the development of illness and the ability of the patient to be resilient and recuperate.

My own life as a family practice physician was fulfilling, busy, and stressful. My family was growing, with the birth of three children over the next few years. As many readers know, juggling family life involving young children with a career is challenging. When the ballet studio that my girls attended started offering yoga for parents, I signed up and quickly became hooked. The immediate mental stress reduction as well as the physical workout really appealed to me.

I was fascinated by the effect of yoga compared to other forms of exercise I had practiced and wanted to learn more about it. However, my responsibilities as a physician and parent did not allow much free time to pursue this curiosity, other than attending classes. A few years later, thanks to my spouse's support, I was able to retire from my medical practice to be home for my children's important teenage years. As my kids started to become young adults, I decided to further my knowledge of yoga and took certification courses in yoga teacher training and yoga therapy. A whole new world opened to me about how to approach health and the human body.

Since then, I have expanded my yoga career to become a certified yoga therapist through the International Association of Yoga Therapists (IAYT). Yoga therapy is a relatively new profession in the United States. Yoga therapists typically work

with either individuals or small groups with specific problems and common goals, using a variety of yoga tools to improve overall well-being. Some examples of therapeutically themed group classes are low-back issues, prenatal and postnatal care, cancer, cardiac rehab, and Parkinson's disease. Private one-on-one sessions for clients may include inpatient or outpatient referrals from healthcare practitioners. The individual client's specific needs and goals can be addressed in depth, often with the yoga therapist as a part of an integrative healthcare team.

I personally love sharing my knowledge and passion for yoga and healthcare by lecturing and giving workshops to medical students, residents, health professionals, yoga teachers, and students. Looking back on my life, my experience as a PA started my fascination with and appreciation for the human body in all its complexity. I am still awed at the body's physical powers of healing. Family practice reinforced the importance of holistic medicine in helping patients achieve optimal health, teaching me to look at the whole patient, rather than just addressing their chief complaint. My family practice experience mirrors the comprehensive approach of yoga and the ancient Indian system of ayurvedic medicine, which I learned about later in life.

Ayurvedic medicine considers the whole patient, including environment factors, and attempts to balance all the interdependent parts to achieve harmony. Yoga is one of the therapeutic tools often used in ayurvedic medicine. Yoga therapy utilizes the *pancha maya kosha* model, a concept of five layers or sheaths which comprise us as individuals. Briefly, these layers in individuals are the physical, energetic, emotional, mental, and spiritual selves. Though these five aspects or selves are considered subsets within us, each part affects the others.

Physical issues are intertwined with our ability to be active and energetic, which in turn influences our emotional, mental, and even spiritual state. The reverse is also true; mental or emotional problems affect our energy level and physical body. Attitudes affect outcomes, an example of a holistic approach. Ayurvedic medicine will be discussed more in Chapter Four.

The wisdom of yoga provides specific tools that are accessible to virtually everyone. I often wonder how my medical practice might have been different if I had been exposed to yoga earlier in my career. I would have had more tools in my repertoire to offer patients, and perhaps more patients would have been empowered to assume a partnership role in their healthcare. In my experience, the physician and patient working as a team inspires better results than does the physician assuming primary responsibility to “heal the patient.” The old-fashioned paternalistic view of the physician-patient relationship is outdated, and healthcare is evolving into a partnership role. More responsibility taken by the patient can also help decrease the stress experienced by the healthcare provider. Professional burnout is a genuine issue in Western medicine. My prescription for burnout is to practice yoga, even if it is in very brief moments of time taken out throughout the day.

The Power of Stress

Stress is our physiological, mental, and emotional response to stressors or events in our lives. We all have stress; some is normal and can even be good for us, challenging our ability, adaptability, and coping skills. Stressors, the causes of stress, can vary in intensity from high to low, can be chronic and ongoing versus acute and short term, and can be actual versus

perceived. There are distinct types of stressors, such as physical, environmental, mental, emotional, and spiritual. Some people cope better with stressors and are more resilient, perceiving less stress than their cohorts in similar situations. Some people even thrive on it, almost like an “adrenaline rush.”

The body’s response to perceived stressors impacts health, just as lifestyle and relationships do. A state of stress is reflected by a physiological reaction in the body. Higher cortisol and other “stress hormones” are produced, which in turn trigger a cascade effect. The physiological response of the body to chronic or high stress levels can affect the body on multiple levels, including inflammation in the cardiovascular system and impaired immune function. This inflammatory cascade triggered by chronic stress is thought to be one underlying factor in the development of multiple illnesses, including type 2 diabetes and heart disease. Unhealthy lifestyle habits—like smoking, being sedentary or overweight, and poor food choices—are other factors contributing to an underlying chronic inflammatory state. Trying to control the stress level, along with healthy food choices and exercise, can help reverse this process.

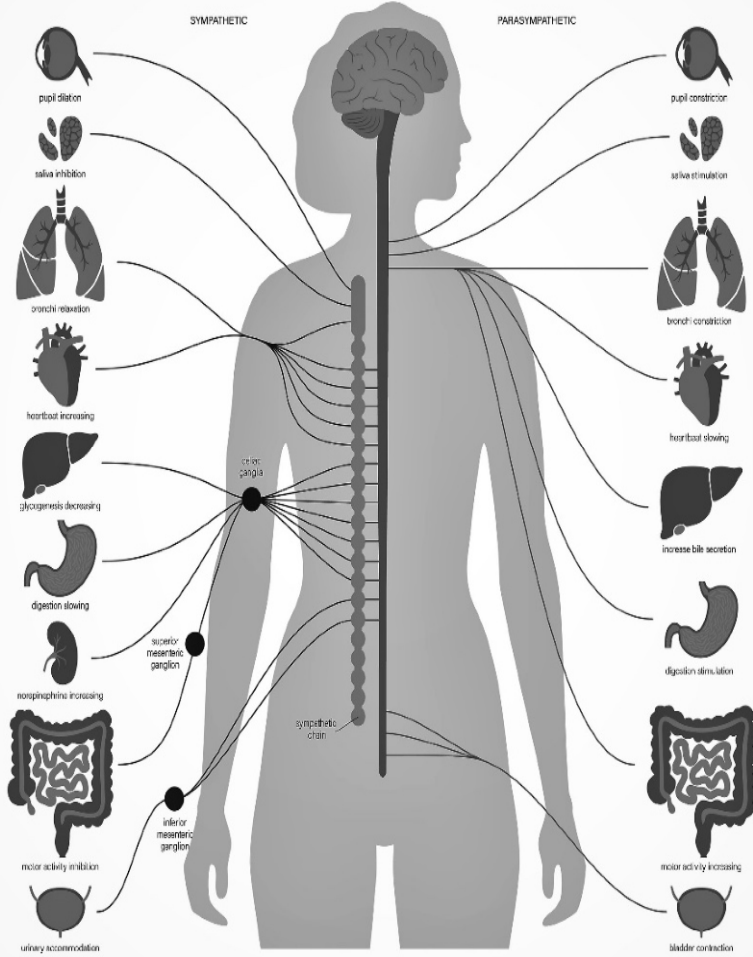
How can we learn to reduce tension as we respond to stressors in our lives? The physiological stress reaction sometimes feels like a whistling teapot that needs to release steam. How can we release this steam to prevent it from building up in our systems? Or better yet, how can we learn not to build up steam, in the form of chronic stress reactions, in the first place?

Herein lies the beauty of yoga. Yoga provides tools to better handle stressors and to decrease the chronic stress response in the body. I believe this ability to decrease stress, including

lowering of circulating stress hormones, is the main reason yoga works for so many people. Techniques that help to decrease stress include using certain breathwork, the physical postures of yoga (asana), awareness, meditation, and cultivating kindness and compassion. Using these accessible tools, we can impact physical, mental, and spiritual health in a beneficial way. We can even learn to use specific techniques to decrease the stress response to whatever is happening in the present moment.

The autonomic nervous system (ANS) is responsible for the background physiological state of the body, typically without voluntary conscious control. The ANS traditionally had two main branches, the sympathetic and parasympathetic nervous systems. The enteric nervous system of the gut, which is discussed later, is now also thought of as a third branch of the ANS. The “fight or flight” stress response represents the sympathetic nervous system (SNS), and among other things produces a fast heart rate, high blood pressure, sweating, hypervigilance, and shunts blood away from the gut to the muscles. The SNS is the response of the body to stressors, both actual and perceived, readying the body to fight or flee. Conversely, the parasympathetic nervous system (PNS) cues the body to “rest and digest” by producing a lower blood pressure, slower heart rate, less muscle tension, mental relaxation, and shunts blood to the gut. The PNS also favors a healthy immune function. The SNS and PNS work together to help the body respond appropriately in any given moment to what life presents to us.

AUTONOMIC NERVOUS SYSTEM



When you feel stress reactions of the SNS taking place in your body, such as anxiety and fast heart rate, you can use specific yogic styles of breathing (pranayama) to induce a calming PNS response, thereby counteracting your stressful “sympathetic storm.” You can also learn to change your attitude and reaction to life stressors. Mindfulness helps you become more aware of the present and to respond to stressors in a calm helpful way, rather than to act impulsively or with a habitual stress response. Cultivating this yogic awareness or mindfulness in everyday life may eventually result in the stressors failing to produce a stress reaction at all. You may remain calm and unfazed. This desired goal requires commitment and practice but is attainable.

Sounds too good to be true? Please stay engaged and keep reading, and then *practice yoga*. Reading alone does not equal practice. Until you use the yoga tools yourself, the concepts of stress reduction and being more harmonious are just words, instead of being experienced by you, the individual practicing yoga.

Yoga as Integrative Medicine

Some of the popular styles of yoga practiced today leave out many of the ancient yogic concepts and instead focus mainly on the physical postures, asanas, as a form of exercise. Asana practice is extremely beneficial for developing the body-brain connection, such as interoception, and for other benefits. Interoception is being aware of sensations arising within the body, versus focusing on external sensations arising from the environment. But yoga encompasses so much more than the physical practices. Traditional teachings include behavioral

guidelines for reducing suffering to self and others (the *yamas* and *niyamas*), breath techniques (pranayama), mindfulness (a Buddhist tradition), and meditation. These practices may be incorporated into your daily life, rather than just using them while you are on a yoga mat.

Western medicine tends to categorize illnesses into body systems, such as cardiovascular, respiratory, and endocrine systems. Even though underlying stressors and unhealthy lifestyles are acknowledged, the focus is on treating the part of the body that is “presenting” with the actual symptoms of the disease. Western medicine has an extensive repertoire of pharmaceuticals and procedures available for use that can be highly effective to treat symptoms, especially for acute issues.

However, when health professionals recommend lifestyle changes like diet and exercise, it is often a hard sell to get the patient to follow through. Patients tend to prefer a quick fix, such as a pill for high blood pressure. While pharmaceuticals can be effective, a pill is rather like putting a finger in the dike that represents the greater problem. High blood pressure is often a symptom of lifestyle, such as being overweight and sedentary, making poor food choices, and/or having chronic stress. Eating properly, controlling body weight, building up the physical body, and dealing with mental issues and stressors are more holistic goals to help get the blood pressure under control. The integrative lifestyle choices taught in yoga therapy can be influential as adjunct therapy for chronic conditions such as high blood pressure.

Rather than being separate approaches, yoga and Western medicine working together may complement each other to improve physical and mental health. An individual may be

empowered to self-nurture, rather relying on the health professionals to “fix” them. This shouldering of responsibility by the individual to treat the precious body with respect can powerfully assist health professionals in caring for patients.

When health professionals understand and practice yoga themselves, it may influence patients to embrace their own lifestyle changes. Yoga as a recommendation from health professionals can be particularly helpful with chronic issues such as depression, adult-onset diabetes, high blood pressure, fibromyalgia, osteoarthritis, scoliosis, and chronic pain.ⁱⁱⁱ Improvement in chronic illnesses may allow the healthcare professional to potentially wean patients off long-term use of medications such as those used for high cholesterol, high blood pressure, and pain control. This is especially relevant with the current problem of opioid overuse. Yoga is also a valuable preventive medicine tool to help maintain and prolong good health.

Physical bodies often reflect the story of what has happened in our lives. An example of the effects of stress on physical appearance is the aging of American presidents, comparing photos before and after serving their terms. Physical injuries, emotional and mental stress, diet, and physical fitness level all shape and mold us over time. Some people reflect health and confidence in their posture and affect, while others project fatigue, fear, depression, or anger. Habitual postural and movement patterns can cause certain muscle groups to become weak and “stuck” in either long or short positions due to sedentary or stressful lifestyles. Envision the common forward head position and the slouched posture of those who sit too much, and the hunched shoulders of the chronically stressed.

Yoga asana can help open and release these stuck muscles and fascial patterns. Incorporating teachings such as the *kleshas*, impediments to spiritual growth discussed in Chapter Five, can help release associated negative stressful patterns of thought.

Keeping an open mind about new concepts and evolving knowledge is important in both the modern medical field and in the practice of yoga. Ideas presented in this book are not set in stone. As we progress in our collective knowledge of these topics, some of the ideas here may evolve, prove to be incorrect, or need to be modified. One of my biggest challenges in drafting this book was that I am constantly learning and having new experiences. Inevitably, each time I reviewed the manuscript, I had learned something new, so I needed to make updates. I believe that the more you know, the more you realize there is so much to learn!

Importantly, yoga has also taught me to release my imagined control of the universe, welcome change, and move forward in a positive and hopeful direction. I realize that change is the only real constant in life and that perfection is elusive. Letting go of the idea of a perfect book has helped me stop revising and editing the manuscript and instead release the work for publication. I am proud of my effort, and, as Krishna advised Arjuna in the *Bhagavad Gita*, I am doing my best not to be attached to any particular outcome. The process of finalizing the book is a metaphor for moving on with my life, embracing change, releasing control and self-criticism, and removing the idea of perfection from my ego.

Each experience and person you encounter can give lessons in living. But you are your own most important teacher. Challenge yourself to stay open to new ideas and ways of

thinking. Strive to choose what feels true to you at each moment. This wonderful life journey can truly be a blessing. Put forth the effort to be present in your own evolution towards a more contented union of body, mind, and spirit, which is the true goal of yoga.

Just as it is difficult to know where to start when instructing a new group of medical students about the vast knowledge of Western medicine, the same is true with the topic of yoga, which is as vast and far more ancient than modern medicine. In the next chapter, I focus on some ancient yogic texts, including Patanjali's *Yoga Sutras*, a guide to living a healthier, more compassionate, and fulfilling life.

YOGA AS INTEGRATIVE MEDICINE



YOGA SUTRAS MEET GRAY'S ANATOMY

MARY DURYEA MD

C-IAYT, E-RYT 500

This book discusses yoga teachings while correlating them with anatomy and physiology concepts from Western medicine. Yoga therapy is presented as a valuable addition to integrative medicine, holistic health, and individual self-care.

YOGA AS INTEGRATIVE MEDICINE: YOGA SUTRAS MEET GRAY'S ANATOMY

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