

UPDATED AND EXPANDED



The classic
mind/body
approach
that has
helped millions
conquer the
harmful effects
of stress

the Relaxation Response

by Herbert Benson, M.D.

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Foreword:
Twenty-fifth Anniversary Update

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When *The Relaxation Response* was first published in 1975, the Vietnam War and the cultural upheaval that accompanied it loomed large. Only two years earlier, the Supreme Court had established a woman's right to a legal abortion in its controversial *Roe v. Wade* decision. AIDS would not be discovered for six more years. The precursor of *in vitro* fertilization, the first test-tube baby had yet to be born. Two Californians were working in their garage to build the Apple, the first mass-produced computer. Fax machines and cell phones were a gleam in their inventors' eye.

Indeed, the world today is dramatically different from the world that was first introduced to the connections of mind and body detailed in *The Relaxation Response*. Three decades ago it was considered scientific heresy for a Harvard physician and researcher to hypothesize that stress contributed to health problems and to publish studies showing that mental focusing techniques were good for the body. I broke ranks with the medical establishment when I decided to pursue this theory and to prove or disprove it in my medical research.

Today we, as a society, take for granted the multifaceted and intimate relationship between mind and body. Scientists now avidly pursue ties between brain activity and physical manifestations. Millions of Americans now elicit the Relaxation Response regularly, as Yoga classes swell, athletes report “being in the Zone,” and people set up quiet places in their homes to meditate or pray.

Despite the advances that have been made, this twenty-fifth anniversary update of *The Relaxation Response* is sorely needed. Mind/body science has made enormous progress but has yet to be incorporated as an equal, fully respected partner in Western medical disciplines. As many times as science has affirmed the original message of the book over the past two-and-a-half decades, medicine and society have yet to take full advantage of the healing resources within the mind/body realm.

So much has changed: our economy is becoming more globalized, and barriers between countries are being

pulled down. But we have yet to witness a corollary paradigm shift in medicine. Today, our appetites have been whetted with quick fixes, so much so that our quest for diagnostic gadgets and miracle drugs has almost overcome common sense. We expect that surgical acumen will be enough to save us and if not, the next remarkable scientific discovery will. Although mind/body therapies have been proven effective for the vast majority of everyday medical problems, we are still far more apt to run to our medicine cabinet to relieve aches and pains than to consider relaxation or stress-management techniques.

Evolution has yielded us a human body that is astonishingly reliable, able to perpetuate breath and thought, movement and experience, day after day, year after year. By and large, our bodies function even when we bombard them with stress and fatty food, even when we neglect to exercise or to get a good night's sleep. Clearly, we are blessed with an incredible internal technology.

Sadly though, we still rely far more than we should on external fixes—on medications and medical and surgical procedures developed in laboratories—and not on our natural potential for self-healing. Therapies we can purchase and caregivers we can consult, whether available through conventional or unconventional medicine, are still far more impressive to us than our own hearts and minds, lungs and hopes, muscles and beliefs, even though they sustain us day in and day out.

The Three-Legged Stool

Seeing that we continue to neglect our potential for self-healing is a source of both frustration and motivation for me. My goal has always been to promote a healthy balance between self-care approaches and more traditional approaches—medical and surgical interventions that can be magnificent and lifesaving when appropriate. However, self-care is immensely powerful in its own right. The elicitation of the Relaxation Response, stress management, regular exercise, good nutrition, and the power of belief all have a tremendous role to play in our healing.

I envision a future in which medicine is as sturdy as a three-legged stool, balanced equally by three healing resources—medications, surgery and other medical procedures, and self-care approaches. Ideally, medicine would call upon self-care for 60 to 90 percent of the everyday problems that patients experience. We would draw appropriately upon the medicines and surgeries when necessary. All three legs are mandatory.

With this future in mind, let me update you on the headway that has been made in the last twenty-five years. With a bit of history, you'll see how *The Relaxation Response* came about and what the book's findings meant to mind/body research and to the millions of people who evoke the response. You will also see how much more we must do to ensure that healing in the twenty-first century is as complete as possible.

From the Beginning

Thirty-five years ago, when I was a young cardiologist, I noticed a trend among my patients with high blood pressure, or hypertension, a silent and dangerous precursor of heart disease. Once I prescribed medications, I noticed they often complained about fainting or becoming dizzy. These were side effects of having their blood pressures lowered with medications. Patients went from feeling fine to being burdened with irritating and disabling side effects, all the result of medicine I had prescribed.

This troubled me. It appeared that by following the standard treatment approach, I was overmedicating patients—unleashing on otherwise symptomless people maddening side effects from medications that they would be required to take the rest of their lives. I soon learned that my patients were not unique. These complaints were common among people being treated for hypertension.

It was widely known that, when measured in a doctor's office, a patient's blood pressure was often higher than when it was measured by the patient himself or herself at home or in other settings. Yet the medical literature failed to explain this discrepancy sufficiently, and none of my colleagues seemed that bothered by it.

I speculated that patients exhibited falsely high levels in doctors' offices because they were nervous, and that there might be a relationship between stress and high

blood pressure. Though it seems unmistakable to us today, with the clue of the word *tension* embedded in *hypertension*, no one in medicine had yet explored the correlation between stress and elevations in blood pressure even though high blood pressure was a primary contributor to the nation's *leading* cause of death.

Mind Divorced From Body

My colleagues thought I was bizarre for suggesting such a thing because we had been taught that the mind and the body were inexorably separate, as had been postulated by René Descartes, the seventeenth-century mathematician. Following Cartesian thinking, Western science never questioned this model. Except in a relatively unaccepted field of study called psychosomatic medicine, Western science had not, in the nineteen-sixties, begun to entertain the possibility that physical problems might be rooted in mental or emotional activity, or that stress as a phenomenon could engender demonstrable medical repercussions.

Nevertheless, I pursued the question. At that time I was a research and clinical cardiologist at the Harvard Medical School's Thorndike Memorial Laboratory at Boston City Hospital. I interrupted my clinical career and returned to my alma mater, Harvard Medical School, to

become a research fellow in the Department of Physiology. Under the aegis of my mentor A. Clifford Barger, beloved at Harvard for his teaching skill and widely respected for his pioneering physiology research, I began investigating a connection between stress and hypertension.

We created an animal model, rewarding monkeys for increases and decreases in their blood pressure and signaling success to them with colored lights. Eventually, we were able to train the monkeys to control their blood pressure by turning on the appropriate colored lights. They regulated their blood pressure levels with brainpower alone. We published the results in the prestigious *American Journal of Physiology* in 1969.

Transcendental Meditation

Meanwhile, my findings had intrigued practitioners of Transcendental Meditation. They believed their blood pressure decreased when they meditated but had no way to document or legitimize their claims. They wanted me to study them. Since my position at Harvard was already tenuous, I initially refused the T.M. practitioners, not wanting to be associated with a group that mainstream society considered counterculture. Nevertheless, the T.M.

advocates kept insisting, and finally I decided, “Why not?” and quietly began studying them.

Robert Keith Wallace was performing similar experiments with T.M. practitioners as part of his doctoral thesis at the University of California at Irvine. After learning of each other’s work, we decided to collaborate. Once the data was compiled, we found that the facts were incontrovertible. With meditation alone, the T.M. practitioners brought about striking physiologic changes—a drop in heart rate, metabolic rate, and breathing rate—that I would subsequently label “the Relaxation Response.” Their blood pressures were essentially unchanged before and after meditation, but as a group, they tended to have unusually low blood pressures to begin with. Thus, their blood pressure changed only slightly during meditation. Later, we established that such low levels of blood pressure were a health benefit brought about by the regular elicitation of the Relaxation Response. I am grateful to the T.M. adherents who led me to these findings and who agreed to be studied for the benefit of medical research, regardless of the outcome.

Connections to the Fight-or-Flight Response

Amazingly, the very room and building in which my colleagues and I studied the T.M. devotees was where

THE RELAXATION RESPONSE

Walter B. Cannon, the famous Harvard physiologist, had discovered “the fight-or-flight response” sixty years before. For those of you unfamiliar with this finding, it was revolutionary. The fight-or-flight response offered glimpses into the evolutionary momentum that equipped modern human beings with keen physiologic survival instincts. Cannon theorized that mammals have a physical ability to react to stress that evolved as a survival mechanism. When faced with stressful situations, our bodies release hormones—adrenaline and noradrenaline, or epinephrine and norepinephrine—to increase heart rate, breathing rate, blood pressure, metabolic rate and blood flow to the muscles, gearing our bodies either to do battle with an opponent or to flee.

Our studies revealed that the opposite was also true. The body is also imbued with what I termed the Relaxation Response—an inducible, physiologic state of quietude. Indeed, our progenitors handed down to us a second, equally essential survival mechanism—the ability to heal and rejuvenate our bodies. In modern times, the Relaxation Response is undoubtedly even more important to our survival, since anxiety and tension often inappropriately trigger the fight-or-flight response in us. Regular elicitation of the Relaxation Response can prevent, and compensate for, the damage incurred by frequent nervous reactions that pulse through our hearts and bodies.

Indeed, our minds need not race as they usually do but can become focused. When the mind is focused, whether through meditation or other repetitive mental

activities, the body responds with a dramatic decrease in heart rate, breathing rate, blood pressure (if elevated to begin with), and metabolic rate—the exact opposite effects of the fight-or-flight response.

Essential Components

Just as the fight-or-flight response could be triggered by any number of stressful scenarios in modern life, my fellow investigators and I hypothesized that the Relaxation Response might also be elicited in a number of different ways, not just by the method espoused by Transcendental Meditation. From the T.M. technique, we extracted four essential components that would elicit the Relaxation Response:

1. A quiet environment
2. A mental device—a sound, word, phrase, or prayer repeated silently or aloud, or a fixed gaze at an object
3. A passive attitude—not worrying about how well one is performing the technique and simply putting aside distracting thoughts to return to one's focus
4. A comfortable position

Later we discovered that only the middle two components—the mental device and the passive attitude—were required. A person could be jogging on a noisy street and still elicit the Relaxation Response. The jogger needed only to maintain a mental focus and be able to return to her focus when distracting thoughts interfered. Since ancient times, diverse religious believers have said or sung repetitive prayers—practices that also elicit the Relaxation Response. Obviously, people who are nonreligious and those who do not identify with a particular religion can just as easily and routinely reap the physical rewards. In fact, the Relaxation Response could be evoked with any number of techniques—Yoga or *qigong*, walking or swimming, even knitting or rowing. The person evoking it could sit or stand, sing or remain silent.

As my colleagues and I studied the Relaxation Response, we learned that stress—and the secretions of adrenaline and noradrenaline stress produced—contributed to or caused many more medical problems than Western medicine appreciated. The Relaxation Response proved effective in treating not just hypertension but also headaches, cardiac rhythm irregularities, premenstrual syndrome, anxiety, and mild and moderate depression.

We started teaching patients to elicit the Relaxation Response in ways that were meaningful to them. In addition to the simple repetition of the word *one* suggested in this book, Catholics could recite “Hail Mary full of grace,” Jewish people might say “Sh’ma Yisrael,” and

Protestants might find “Our Father who art in Heaven” calming. “Isha’allah” might be repeated by Muslims, and “Om” by members of the Hindu religion. Secular or non-religious people were encouraged to focus on words, phrases, or sounds that were compelling to them, such as the words *love*, *peace*, or *calm*. We learned that phrases learned in childhood could be particularly powerful, evoking the calm and security felt, for example, when in the presence of loving parents and family. In this way, we observed that all types of people were able to incorporate their own belief systems and values into evoking the Relaxation Response.

How to Elicit the Relaxation Response

In my most recent book, *Timeless Healing: The Power and Biology of Belief* (Scribner, 1996), Marg Stark and I provide updated instructions for eliciting the Relaxation Response. After twenty-some years of refining my understanding of our remarkable physiologic capability, we found that the two essential steps to eliciting the Relaxation Response are:

1. Repetition of a word, sound, phrase, prayer, or muscular activity.

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2. Passively disregarding everyday thoughts that inevitably come to mind and returning to your repetition.

This is the generic technique I have taught patients and that I have used myself for many years:

1. Pick a focus word, short phrase, or prayer that is firmly rooted in your belief system.
2. Sit quietly in a comfortable position.
3. Close your eyes.
4. Relax your muscles, progressing from your feet to your calves, thighs, abdomen, shoulders, head, and neck.
5. Breathe slowly and naturally, and as you do, say your focus word, sound, phrase, or prayer silently to yourself as you exhale.
6. Assume a passive attitude. Don't worry about how well you're doing. When other thoughts come to mind, simply say to yourself, "Oh well," and gently return to your repetition.
7. Continue for ten to twenty minutes.
8. Do not stand immediately. Continue sitting quietly for a minute or so, allowing other thoughts to return.

Then open your eyes and sit for another minute before rising.

9. Practice the technique once or twice daily. Good times to do so are before breakfast and before dinner.

You can also elicit the Relaxation Response while exercising. If you are jogging or walking, pay attention to the cadence of your feet on the ground—"left, right, left, right"—and when other thoughts come into your mind, say "Oh, well," and return to "left, right, left, right." Of course, keep your eyes open! Similarly, swimmers can pay attention to the tempo of their strokes, cyclists to the whir of the wheels, dancers to the beat of the music, others to the rhythm of their breathing.

A Best-Seller

The basic message of *The Relaxation Response* took little time to ignite. Within a few weeks, the book jumped to the top of the *New York Times* best-seller list. It remained on the list for months. A book about something as simple and sensible as the use of quiet, focusing techniques to calm the body went on to sell almost four million copies, to be translated into thirteen languages, and to become the self-care book most often recommended

by health professionals. The book is now in its thirty-eighth printing.

Why was the book's message so revolutionary? After all, prior to the twentieth century, doctors had few scientifically proven remedies to offer patients and were forced to rely almost exclusively on the power of the mind to heal the body. That began to change when Western medicine acquired new knowledge about the human body, starting with the recognition of bacteria in the mid-1800s. Then came the discovery of insulin and penicillin in the 1920s and 1930s, the Salk vaccine in the 1950s, and an explosion of new findings in the 1960s that led to the high-tech medicine of the 1990s. When *The Relaxation Response* was published, self-care was the farthest thing from the minds of Western physicians and patients. We were still trying to get beyond the period in which patients had little but their own resources on which to rely, when the healing of serious wounds and diseases had to be left "in God's hands." Bacteria and viruses were suddenly better understood; we were enamored, and understandably so, with all the new tools medicine had to offer us—medications, surgeries, X-ray procedures, and other innovations that identified and solved problems extraordinarily well.

Mind/body medicine appeared to be unnecessary in an age when drugs could vanquish such illnesses as pneumonia and tuberculosis and when anesthesia made surgery acceptable. In 1975, medicine had almost completely dismissed the advantages of the third leg, that of self-care,

thinking, “Why bother trying to take care of problems ourselves when we have such wonderful pills and procedures?” We were completely dependent on drugs and surgeries even when those techniques were not helpful, not to mention that these interventions were often accompanied by numerous side effects and escalating medical costs.

The doctor-patient relationship started to suffer as a result. Because treatments were so powerful, the medical profession believed that treatments were all that patients needed. But patients inherently understood how out-of-whack medicine was becoming, and they resented the way in which their symptoms were dehumanized. After all, physicians often reduced medical problems to test results and Latin names, and referred to a patient as “the gallstone in room 207.” The focus on new tests and treatments, together with the pressures to deliver health care in a climate of ever-increasing costs, ate away at the time physicians used to talk with patients and learn about the human side of their pathology.

Bridging the Divide

It was in this climate—one of expanding reliance on technology, escalating medical costs, and slowly deteriorating doctor-patient relationships—the *The Relaxation Response* was published. In many ways the book cast a

rope across a widening chasm. In simple, scientific terms, the book—based on research my colleagues and I had published in medical journals—spelled out connections between the mind and body that were reasonable and meaningful to both Western scientists and their patients. They suggested that mind and body were not as diametrically opposed as our culture had decided they were.

With that first rope thrown across, we could now bridge a gulf. East and West might be joined; science and the everyday experience of human beings could be brought together in meaningful ways. In many instances, that is what occurred. The chasm was crossed, the gulf bridged. However, true progress—the recasting of perspective in traditional medicine—was far more plodding than I had hoped. My work and that of my colleagues had already helped many people, which was a source of great satisfaction for me. On the other hand, many more could have been helped, and we might have had a far greater therapeutic impact on both patients and on the costs of patient care, if the academic medical community had been as enthusiastic as the public was about our findings.

The Public's Enthusiasm

Within weeks of the book's publication in 1975, I traveled to New York from my home in Boston and was

astonished to find copies of my book heaped on the front table at a Fifth Avenue bookstore. After all, I had been surprised to be asked to write a book in the first place. Bill Adler, an agent who represented authors as famous as Howard Cosell, had called me to suggest that my research would make an interesting book. However, neither of us could have predicted the public reaction to *The Relaxation Response* or the trends in book publishing it began, predating a slew of subsequent medical best-sellers by Bernie Siegel, Norman Cousins, Deepak Chopra, Andrew Weil, Dean Ornish, and others.

Barbara Walters played a major role in the success of *The Relaxation Response* by interviewing me on ABC's *Good Morning America*. Sitting backstage after the show, I remember having to set aside the medical students' exam papers I was grading to teach Ms. Walters to elicit the Relaxation Response as she had asked me to. I was so invested in what Harvard academics thought of my work that the media attention embarrassed and worried me.

It also didn't occur to me that the national media attention would have an impact on my life. I could not have imagined that people who read *The Relaxation Response* would become its staunchest supporters and fervent publicists. The book helped hypertensive people lower their blood pressure, eased the pain of those with migraines and other aches and pains, and gave people more reasons to pray. Because of the profound impact *The Relaxation Response* had on their lives, strangers

greeted me at speaking engagements as if I was a treasured friend.

I counted on the objective scientific proof of the research my associates and I performed to bring about a profound change in medicine—in which the influence of the mind was as tenaciously investigated by researchers as the influence of drugs and technological gains. I believed the three-legged stool model would be incorporated; drugs, surgeries, and self-care would be used equally and appropriately. I had no idea this alteration of medical practice would be such an uphill battle.

Only the Placebo Effect

The argument most frequently used to disregard our findings was the suggestion that the Relaxation Response was nothing more than the reobservation of the prevalent—and I might add, consistently misunderstood—placebo effect. In other words, critics said that the physiologic changes my colleagues and I observed in our clinical patients were self-suggested or “all in the patients’ heads.” By believing they could lower their blood pressure, patients had been able to do so. In other words, belief in the Relaxation Response was responsible for its success. People got better simply because they imagined themselves better.

Yet, that much was true in all scientific experiments on humans. Researchers had long known that when patients believed they would get better—when, for example, they believed they were taking medicine but were instead taking placebos such as sugar pills—more than 30 percent of them did actually improve. Randomized control trials were first extensively used in Western medicine after World War II, when massive new drug experiments were launched. It was then that the placebo effect became an irritating component of scientific experiments, a kind of black sheep in medicine.

I had as much disdain for the placebo effect as my colleagues, so I worked diligently to prove the Relaxation Response was a distinct physiologic state. I read hundreds of scientific studies, examining how the placebo effect had entered into medical developments of every kind.

Together with other researchers, I established that the success of the Relaxation Response was not attributable to the placebo effect. The Relaxation Response worked regardless of a patient's belief. Indeed, when a person focused his or her mind and returned to the focus when interrupting thoughts occurred, a set of measurable, reproducible, and predictable changes occurred in the body, meeting the standards of scientific medicine. The placebo effect, by contrast, was not predictable or reproducible.

In our study, however, we found that the placebo effect was 50 to 90 percent successful, working two to three

times more often than it should have, according to the 1955 report of one of my Harvard teachers, Henry K. Beecher. My colleagues and I published articles about this in 1975 in the *Journal of the American Medical Association* and in 1979 in *The New England Journal of Medicine*. Ironically, the placebo effect from which I had been so eager to distance the Relaxation Response, turned out to be a valuable and neglected asset in medicine.

Researchers had long relied on the 30 percent success rate attributed to the placebo effect by Dr. Beecher. Our work showed that far from an irritating little variable, the placebo effect deserved our utmost attention. Indeed, evolution made it an innate capacity for healing within each of us—a resource that could be effective the majority of the time. To disassociate it from the negative response it provoked in medicine, I proposed renaming it “remembered wellness.” Remembered wellness, the placebo effect, is fueled by belief.

The Faith Factor

In my practice, I found that belief—and for many, this might mean religious beliefs—could not be divorced from the medical experience, as traditional medicine required. Belief was central to patients’ lives, and potentially central to their health.

Eighty percent of my patients chose prayers as the focus of their elicitation of the Relaxation Response. For this reason, I found myself in a curious position—that of a physician teaching patients to pray. By no means had I set out to do this. Patients' religious affiliations were as diverse as their ages and medical conditions, but they demonstrated to me the role that religious belief could play in healing.

Remembered wellness (the placebo effect) appeared to enhance the effectiveness of the Relaxation Response. I called the combined force of these two internal influences "the faith factor," and discussed them more fully in my subsequent books, *Beyond the Relaxation Response* and *Timeless Healing: The Power and Biology of Belief*.

Philanthropist Laurance S. Rockefeller took an interest in the faith factor and the role that belief, especially religious belief, could play in all types of healing, and he sponsored our seminars for clergy from all denominations. Clergy members took the message of the faith factor back to their faith communities, where believers could benefit from the healthful effects of the Relaxation Response and remembered wellness. The renowned investor Sir John Templeton invited me to become an adviser to the John Templeton Foundation, where I encountered many other physicians, physicists, clergy people, historians, and future planners—all of whom were devoted to studying the pervasive power of God and religious belief.

I am deeply indebted to both these men, whose support ensured that my colleagues and I would gain a far greater understanding of religious faith, belief in healing, and spirituality than we would have otherwise.

Fear of mixing church and state, religion and science, is predominant in our culture. My colleagues and I tried to avoid this controversy altogether, simply by offering our patients a choice. When teaching patients to evoke the Relaxation Response, we asked them, "Would you prefer a secular or religious approach?" We enabled patients to bring their religious beliefs, which are often profound, into medical settings and yet we did not offend patients who did not consider themselves religious. We put patients at ease, allowing them to choose a self-tailored approach. And patients were far more apt to adhere to a regular practice of mental focusing if the approach they selected was meaningful and compelling to them personally.

The Next Fifteen Years

Many different groups, from churches to corporations, from spas to professional associations, began to clamor for the information my colleagues and I disseminated in medical journals, lectures, training sessions, and in the subsequent books we wrote. Interest in what the brain could

do for the body was so intense that we frequently could not keep up with requests for speaking engagements. We could not develop programs fast enough for health care professionals, clergy, and schoolteachers. Thousands of patients sought help at our clinics.

Academic medicine, on the other hand, largely dismissed our findings for the next fifteen years. Many people were helped because I had published a best-selling book, but in many ways, that same situation hurt our cause of changing Western scientific thinking. Its very popularity tainted it in academic circles and prevented its message from being taken seriously. To my knowledge, there had never before been a best-selling author among the Harvard Medical School faculty. I was, in fact, admonished, "Physicians at Harvard do not write popular books."

To this day, physicians who become best-selling authors in this country often leave academic medicine. But I stayed at Harvard because I enjoyed its unique intellectual environment. Besides, I felt I should remain in such an academic setting to introduce real change into medicine. No matter how eager popular culture was to embrace mind/body research, Harvard and the nation's other leading teaching hospitals and research institutions were the gatekeepers of medical innovation. Harvard's prestige and reputation, which it richly deserves, would carry mind/body medicine farther than the fading glory of best-selling books.

Alternative Medicine

Practitioners of alternative medicine were eager to welcome me into their fold because they believed our work afforded them scientific credence. Most other people, in fact, lumped our findings together with “alternative medicine,” believing that any approach other than pills or procedures must be “alternative.” Many people believe that the only true medicine is that which can be given to you or performed upon you. Even though the elicitation of the Relaxation Response was a scientifically proven method of healing, it did not fit the traditional model of pills and procedures that Western society considers “medicine.”

Throughout my career, I resisted being associated with alternative medicine. I did this for several reasons.

First, our findings were evidence-based and subjected to the strict standards of Western scientific medicine. I contend that a treatment or technique ceases to be “alternative” once it has survived the battery of scientific proofs and has been published in peer-reviewed medical journals. Alternative treatments such as herbs and homeopathy would no longer be considered “alternative” if they were evidence-based, if they met the three standards of scientific medicine—measurability, predictability, and reproducibility.

Second, a major asset of the Relaxation Response and remembered wellness is that they are self-administered.

Their power lies within each of us. In this way, self-care is revolutionary and quite different from the medicine commonly practiced in both traditional and nontraditional settings. After all, alternative medicine, in large part, also relies on drugs and procedures, the same approaches that Western medicine overuses. Their approaches to healing are imposed on you, not evoked from within. I believe that mind/body medicine has yet to be totally accepted by both traditional *and* alternative medical communities.

Third, alternative medicine adds costs to traditional medicine while the Relaxation Response and other self-care approaches reduce costs. Research has shown that when mind/body medicine is employed patients make fewer visits to their doctors at health maintenance organizations. In prepaid, capitated organizations such as HMOs, this is money in the bank. The nation stands to save billions of dollars each year simply by incorporating mind/body approaches into medicine. Billions more out-of-pocket dollars could also be saved if patients did not feel compelled to pursue alternative treatments.

I believe that patients' extensive use of alternative medicine results largely from their beliefs in different therapies and the fact that their needs are not well met by traditional medicine's reliance on the first two legs of the stool—pills and procedures. After all, doctors today spend seven or eight minutes with a patient, on average

whereas alternative practitioners average thirty minutes with each patient.

Also, alternative medicine fits the accepted model of having a treatment done “to you.” We think every medical problem requires dramatic action. Rather than cultivating and nourishing the internal healing properties within our bodies, patients place their faith in caregiver after caregiver, pill after pill, procedure after procedure, first traditional then nontraditional.

In truth, both conventional and alternative medicine owe some of their effectiveness to the placebo effect, or remembered wellness. A patient’s belief that aspirin will help his headache contributes to its success the same way it would contribute to the success of an herb he took if he believed that it would alleviate his headache. Since the placebo effect is 50 to 90 percent effective, the odds are in his favor that whatever method he chooses will help, because he believes that it will. Indeed, you and I often impose beliefs on the medicines that we receive, which helps them work.

The main difference between conventional and alternative medicine is that most conventional treatments will work for the ailments for which they are appropriate, whether or not you believe in them. You do not have to believe in penicillin for it to work. A cataract transplant will restore your sight whether or not you believe it will. This is the essential difference between evidence-based and unproven, alternative methods. One

works without the influence of remembered wellness, the other does not.

The National Institutes of Health and its National Center for Complementary and Alternative Medicine are now exploring the unproven claims practiced in nontraditional medical settings. I encourage this exploration, but I believe even more strongly in further investigating and employing an already proven strategy—the very powerful healing resources within each of us that can be self-administered.

A Fine Line

As you can see, I have walked a very fine line over the course of my career. I have been accepted by many and rejected by others whose opinions I valued. I have had to balance two roles at the same time, that of a traditional academician and that of a researcher and spokesperson for a new and controversial field of medicine.

As intrigued as I was by mind/body medicine, I knew it was unwise at first to associate myself solely with such a controversial field. I remained a cardiologist, chairing medical school courses and committees, while simultaneously pursuing my mind/body research. It was not until 1988, when my colleagues and I founded the Mind/Body

Medical Institute at the Deaconess Hospital, that I was able to devote my energies to the work I truly loved.

My double life meant that I published my findings in respected medical journals. Yet, I also remained committed to writing books for the public so that lay-people had access to the wonderful new information my colleagues and I were uncovering about mind/body connections.

For many years, I also could not bring myself to “practice what I prescribed.” I did not elicit the Relaxation Response myself, as beneficial as I knew it could be for my body. I worried that by eliciting the Relaxation Response, I would be considered nonobjective, or a “true believer.” Only when I began to experience the aches and pains that come with age did I say, “Enough is enough,” and begin to follow the advice I had given others for two decades.

Nevertheless, I continued to take full advantage of the triage of healing therapies available within medicine’s repertoire. In fact, several years ago, I needed medical interventions to save my life. I had an accident, having foolishly mounted an unstable chair in our kitchen to attach draft-preventing plastic to an air-conditioning vent. The chair slid out from under me, hurling me onto the edge of a butcher-block table. I broke five of my ribs. My lung was punctured and collapsed, and it caused my chest cavity to fill with blood and fluid, making it difficult for me to breathe. Had it continued unabated, the pres-

sure would have led to the collapse of my other lung and to my death.

Luckily my wife was there to call 911 and to have me transported to the nearby Lahey Clinic. The diagnosis was made and a tube inserted into my chest. The blood and fluid were drained, my lung expanded, and my life sustained. No amount of mental focusing or other self-care would have helped. I needed this surgical procedure. This procedure, like so many that snatch people from the throes of death, ensured my existence the way nothing else could.

After this experience, I can personally vouch for the necessity of a balance between caregiver-administered and self-administered treatment. Exercise, stress management, the elicitation of the Relaxation Response, and the beliefs I had in my own recovery quickened my healing. However, my healing would never have been possible without the immediate and dramatic intervention of medical professionals.

Advanced Meditation

Having become fascinated with the health benefits of simple meditation, I wanted to study advanced meditation as well. After all, if simple meditation could be so transforming, might advanced practices be correspond-

ingly powerful? Yet, true practitioners of advanced meditation, the Tibetan monks for example, were initially uninterested in scientific validation or in being studied.

I was persistent, however, and met with the Tibetan monks' leader, His Holiness the Dalai Lama, first in 1979 at Harvard and a dozen times after that. We became friends, discussing the fascinating ways in which the monks' practice of ancient religious rites and our team's research overlapped. In the 1980s, my teammates and I repeatedly traveled to Northern India and studied Tibetan monks who were living there in exile. There, our team witnessed incredible mind/body feats. Monks, in little clothing, remained alive and well, practicing an advanced form of meditation in temperatures of zero degrees Fahrenheit at altitudes over fifteen thousand feet in the Himalayan mountains.

In another example, the team watched as monks, dressed in nothing but small loincloths, were draped in wet sheets while exposed to near-freezing temperatures. You and I would experience uncontrollable shivering, develop hypothermia, and perhaps die under these circumstances. But because these monks had developed amazing physiologic control over years of practicing this type of heat-producing meditation, they experienced no distress in these conditions. Instead, within minutes, the body temperatures they produced steamed and dried the wet, cold sheets.

The monks accomplished this first by meditating and evoking the Relaxation Response in the same simple way

my colleagues and I had studied. When their minds were quiet, they then visualized a fire or heat that came “from the scattered consciousness of the universe” and traveled through an imagined central vessel of the body. They believed this fire burned away the “defilements of improper thinking.”

Eager to reproduce, in some measure, the benefits we had witnessed in the Tibetan monks, my colleagues and I from that point on began to teach our patients the “two-step process” the monks had practiced. First, you evoke the Relaxation Response and reap its healthful rewards. Then, when your mind is quiet, when focusing has opened a door in your mind, visualize an outcome that is meaningful to you. If you are intent on alleviating a pain, envision yourself without the pain. If you are concerned with your performance at work or on the golf course or tennis court, imagine yourself performing well in these venues. Whatever your goal, these two steps can be powerful, allowing anyone to reap the benefits of the Relaxation Response and take advantage of a quiet mind to rewire thoughts and actions in desired directions.

The Latest Findings

In pursuit of a balanced medical approach, my collaborators and I treated thousands of patients and published

THE RELAXATION RESPONSE

scores of studies in medical journals. One by one, we have identified medical conditions that can be relieved or altogether eliminated with the help of the Relaxation Response, remembered wellness, and other self-care approaches such as exercise, stress management, and nutrition. We learned that with self-care, we can effectively treat any disorder to the extent that it is caused by stress or mind/body interactions. Indeed, we can partly relieve or cure most of the common complaints patients bring to their doctors' offices, simply by applying self-care techniques. By taking advantage of the cost-free, healing resources within all of us, the United States, by conservative estimates, stands to save over \$50 billion in wasted health care expenditures each year.

Here is a list of conditions that, to the extent caused or affected by mind/body connections (such as stress and the fight-or-flight response), can be significantly improved or even cured when self-care techniques are employed:

- angina pectoris
- cardiac arrhythmias
- allergic skin reactions
- anxiety
- mild and moderate depression
- bronchial asthma
- herpes simplex (cold sores)
- cough

- constipation
- diabetes mellitus
- duodenal ulcers
- dizziness
- fatigue
- hypertension
- infertility
- insomnia
- nausea and vomiting during pregnancy
- nervousness
- all forms of pain—backaches, headaches, abdominal pain, muscle pain, joint aches, postoperative pain, neck, arm, and leg pain
- postoperative swelling
- premenstrual syndrome
- rheumatoid arthritis
- side effects of cancer
- side effects of AIDS

Recently we pursued a greater understanding of mind/body medicine at work by studying another religious group and their practice of spirituality-based healing. Christian Scientists are known to eschew medications and treatments as part of their religious tradition. We worked with the Gallup International Institute to compile and contrast data about hundreds of Christian Scientists and non-Christian Scientists chosen randomly across the country. We concluded that the church's practitioners re-

port far more use of spiritual practices and fewer instances of illness, and that they are more satisfied with their lives than non-Christian Scientists. Although Christian Scientists report similar numbers of doctors' visits and hospitalizations to non-Christian Scientists, they use prescription medications far less. These findings led us to conclude that a combination of routine medical treatments and mind/body approaches could offer profound health benefits.

How to Use Self-Care

Every illness has a mind/body component and some potential for benefit if you employ self-care techniques. But how do you determine the appropriate use of the advice in this book for your particular medical problem?

Always start by discussing your medical complaint with your personal physician. That way, when appropriate, you can be sure to take advantage of the drugs and procedures we are so fortunate to have. If you have tension headaches, mind/body techniques can be used to eliminate them, without the use of pills or procedures. But if you have pneumonia, you need antibiotics. And if you have cancer, you need all three legs of the stool, all the resources medicine can offer you. That is why it is critical to inquire about a health problem or con-

cern, first and foremost, with your physician. That way, all three of these very valuable tools can be used for your care.

If you see your doctor and are disillusioned because there appears to be no medical therapy for your condition, if the physician yields you little time, or if you believe in unconventional therapies, you may consider alternative medicine. If you do take this course, you may be helped. Remember, however, that your *belief* in the treatments may very well be the major contributor to your healing. You might save the money by recognizing your own ability to produce wellness—by evoking the Relaxation Response and other self-care methods.

Fear and Guilt

Many of us are truly frightened by the notion of having control over our own health. We prefer to hand control over to doctors and alternative practitioners, and to rely on their prescriptions and directions rather than adopting healthier habits and more balanced lives ourselves. We prefer to have a named medical condition that can be treated, no matter how serious, than to have mind/body symptoms that might be benign.

Take the case of a woman who went to many physi-

cians with vague symptoms of on-again, off-again weakness and numbness that appeared first in one area of her body, then in another. Doctors had told her, "It's all in your head," at worst making her condition sound like a figment of her imagination and at best suggesting that her body was responding to stress she must be experiencing in her life.

Finally, another doctor did an extensive work-up and found that the woman had an incurable disease that would eventually cause death. Yet, when the doctor informed her of this, the woman said, "Oh, I'm so relieved, I thought it was all in my head." In fact, she was so concerned that she was being judged a hypochondriac, being called "mentally disturbed," and that physicians were giving up on her, leaving her helpless, that she preferred a serious diagnosis.

Our thinking is backward in this respect. What a powerful message we send our bodies when we try repeatedly to present doctors with symptoms that are treatable only with drugs and procedures. As a society, we lend medicine too much power over us, searching for answers outside of our bodies, when they may lie within us. In fact, patients who practice self-care and take control of their health become so empowered that they recognize how much medicine and society need the paradigm shift I've described.

On the other hand, it is injurious to give too much weight to mind/body interactions. Must those of us diag-

nosed with cancer or heart disease believe we brought these conditions on ourselves? If we cannot beat these insidious diseases, does it mean we are not strong enough in character and beliefs to turn our health around? The guilt associated with this way of thinking is enormous.

Guilt is not necessary. Employ a balanced approach. There is no proof, for example, that mind/body interactions cause cancer although they may affect its course. Place mind/body therapies within a proper context. They are but one of many influences and treatments. If diagnosed with cancer, for example, use mind/body interactions, but also use chemotherapy, surgery, and radiation. Then, whatever happens, you can rest assured you have done everything that was possible. You will have left no stone unturned.

The Paradigm Shift Underway

Every day, more and more health professionals seem to appreciate the vast potential of mind/body connections. I feel blessed to have discovered the Relaxation Response and subsequently to have realized the power of remembered wellness at a relatively young age.

A full third of Americans regularly practice a technique that elicits the Relaxation Response. In 1975, only 7 percent of Americans did so. Back then, meditation

and other mind/body approaches were largely considered counterculture and extreme. Today, mind/body techniques and the practice of nourishing one's spirit are mainstream concepts.

How wonderful it was in the 1990s to have peers begin to traverse the chasm, to swing from the ropes over the artificial divide between mind and body that we are systematically taught. In 1992, an endowed Harvard professorship, the Mind/Body Medical Institute Professorship, was established in honor of our work. This professorship will be named after me upon my retirement. Wonderfully, courses about mind/body medicine and spirituality are now an established part of the curricula in most medical schools everywhere, and are some of the most sought-after classes among aspiring physicians.

In 1995, we achieved another scientific milestone. The National Institutes of Health, the world's leading source of medical research funds, devoted a "Technology Assessment Conference"—a prestigious assemblage of experts—to assess relaxation and behavioral approaches. They concluded that relaxation techniques should be incorporated into the treatment of all forms of chronic pain.

And, in 1999, the federal government, based in part on testimony I gave before the U.S. House of Representatives and the U.S. Senate in 1998, appropriated \$10 million to the National Institutes of Health to create Centers for Mind/Body Interactions and Health across the country. The Centers will conduct mind/body research and

training. The Senate Fiscal Year 1999 Appropriations report states:

. . . The Committee recognizes that stress contributes to a host of medical conditions confronted by health care practitioners, and current pharmaceutical and surgical approaches cannot adequately treat stress-related illnesses. Mind/body approaches, particularly those of the relaxation response and those related to utilizing the beliefs of the patients, have been used successfully to treat these disorders. The Committee is aware that the Mind/Body Medical Institute at the Harvard Medical School is at the forefront of research on mind/body interactions and their clinical applications. The Committee is encouraged by the results of this research and the health and cost benefits of mind/body approaches. The Committee encourages OBSSR [Office of Behavioral and Social Sciences Research] to establish pilot mind/body medical centers to make more visible the benefits of mind/body medicine; to expand its scientific base; and to teach and train health care professionals in these approaches. . . .

I am very proud of this outgrowth of our work, the establishment of these Centers, which will markedly expand the research database and could lead to self-care treatments being further incorporated into medicine.

Even though two-thirds of physicians now recommend

mind/body approaches to their patients, the medical community has yet to achieve the balance of the three-legged stool. Medicine continues to be a reductionist practice, determined to find specific factors that cause an illness as well as specific pills and procedures that alleviate it. While this approach has great merit, changes do not occur in the body in isolated steps. Rather, many steps take place simultaneously. Mind/body interactions are a perfect example. And self-care is multidisciplinary, involving everything from nutrition to stress management, outlooks, values, and beliefs—habits of a healthy lifestyle that work together and do not fit the isolated treatment model.

Health insurance reimbursements are often based on the reductionist model. Health-care providers are reimbursed for specific pills and surgeries but not for multidisciplinary self-care treatments. How ignorant it is for these companies to ignore the data and neglect the potential benefits and cost savings of mind/body techniques.

Furthermore, academic medicine has institutionalized certain edicts that make change very difficult. For example, the criteria of scientific protocols that are used by editors of medical journals correctly require that control groups of patients embarking on an experimental therapy must be matched with groups that receive placebo treatments. However, the groups are not truly matched unless their beliefs and expectations are taken

into account. Mind/body medicine teaches us that different beliefs can produce different results. Therefore, if the power of a subject's beliefs is fully acknowledged, it would invalidate many previous research studies and explain why many times, medical studies fail to be replicated. The effects of our beliefs could explain the contradictions.

The Mind/Body Medical Institute

For our part, the Mind/Body Medical Institute will continue to document the ways in which the Relaxation Response, belief and remembered wellness, stress management, exercise, nutrition, and other aspects of self-care can make major contributions to the health of all people. We'll continue to bridge the chasm, bringing potent mind/body interactions together with the other resources caregivers can administer.

The Mind/Body Medical Institute has become a model for the world, as it embraces the potential of self-care techniques. There are now fourteen affiliates nationwide, all of them teaching patients and health professionals a more balanced approach to care. The Mind/Body Medical Institute is also ensuring that the next generation understands the value of self-care far better. By introducing the Relaxation Response in

schools at elementary, junior and senior high school levels, and at universities, as championed by M. J. Wilcher, we help young students cope with life's stresses in more constructive ways.

We hope that someday every doctor-patient relationship will have a mind/body component to it, both in the diagnosis and treatment of the problem. Every encounter we have with our health care professionals should take into account the effect of our beliefs, anxieties, and hopes on our health, not only because the economics of medicine will demand it but because patients look to physicians to speak to their souls as well as their ailments. Science has brought us this far, revealing the startling powers of both mind and body. My hope is that science will bring us farther still, shifting the paradigm, teaching us to use the tremendous gifts we have to heal ourselves. In so doing, vast amounts of money can be saved. What a wonderful prescription of health, happiness and prosperity for our minds and bodies, as well as our nation's economy!

Words of Thanks

Over the years most of my colleagues have been women and I owe them a debt of gratitude. Our research has shown that women more readily understand and call

upon mind/body principles in their lives and in their health. This may be the reason why women patients were often mistreated and labeled “hysterical” in the past.

Again, our society promotes this backward thinking. Instead of hailing the insights of mind/body medicine that women more readily understand, male physicians often denigrated what we did not understand or could not measure. Our research has impressed upon me that women are born with and maintain an especially active link between their beliefs and their physiology, between their emotions and their health.

Female physicians, a large influx of whom entered medicine’s ranks in the 1970s, 1980s and 1990s, welcomed mind/body research back into the fold of medicine where it belonged. I believe that as more of my female colleagues assume leadership within academic medicine, they will usher the principles of self-care into the next millennium.

I’d like to thank other colleagues, friends, and family members as well. I was fortunate to have been indoctrinated into medicine by instructors who cared deeply about the bedside manner, who taught me that reaching out and helping people was what medicine was about, and who supported me in my fledgling and controversial career. Robert H. Ebert, Lawrence B. Ellis, and Mark D. Altschule were among an older tradition in medicine, back when doctors took time to listen to patients and enlist their motivation in promoting health. These won-

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