

Breathe

You Think You Know How to Do It. You're Wrong

By Carol Krucoff

The technique is so powerful that physician James S. Gordon, M.D. teaches it to nearly every patient he sees – from people with advanced cancer to those crippled by arthritis to school children struggling with attention deficit disorder. He's taught it amidst gunfire in war-torn Kosovo and Gaza, to anxiety-plagued medical students at Georgetown University, and to hundreds of health professionals who have attended his workshops on mind-body-spirit medicine.



“Slow, deep breathing is probably the single best anti-stress medicine we have,” says Gordon, a clinical professor of psychiatry at the Georgetown University School of Medicine. He is the founder and director of the Center for Mind-Body Medicine (CMBM) in Washington. “When you bring air down into the lower portion of the lungs, where oxygen exchange is most efficient, everything changes. The heart rate slows, blood pressure decreases, muscles relax, anxiety eases, and the mind calms. Breathing this way also gives people a sense of control over their body and emotions that is extremely therapeutic.”

Obviously, everyone alive knows how to breathe, but Gordon and other experts in the emerging field of mind-body medicine, say that few people in Western society know how to breathe correctly. Taught to suck in our gut and puff out our chest, we’re bombarded with a constant barrage of stress that causes muscles to tense and respiration rate to increase. As a result, we’ve become a nation of shallow “chest breathers,” who primarily use the middle and upper portions of the lungs. Few people – other than musicians, singers and some athletes – are even aware that the abdomen should expand during inhalation to provide the optimum amount of oxygen to nourish all the cells in the body.

“Look around your office, and you’ll see so little movement in people’s bellies that it’s a wonder they’re actually alive,” Gordon says. “Then, watch a baby breathe, and you’ll see the belly go up and down, deep and slow.” With age, most people shift from this healthy abdominal breathing to shallow chest breathing, he says. This strains the lungs, which must move faster to ensure adequate oxygen flow and taxes the heart, which is forced to speed up to provide enough blood for oxygen transport. The result is a vicious cycle where stress prompts shallow breathing, which in turn creates more stress.

“The simplest and most powerful technique for protecting your health is breathing,” asserts Andrew Weil, M.D. director of the Program in Integrative Medicine and clinical professor of internal medicine at the University of Arizona in Tucson. “I have seen breath control alone achieve remarkable results: lowering blood pressure, ending heart arrhythmias, improving long-standing patterns of poor digestion, increasing blood circulation throughout the body, decreasing anxiety and allowing people to get off addictive anti-anxiety drugs and improving sleep and energy cycles.”

Breathing Lessons Anyone Can Learn!

In our book, “Healing Moves: How to Cure, Relieve, and Prevent Common Ailments with Exercise” (Writer’s Collective, 2004), we present dozens of exercises designed to treat a wide variety of disorders including arthritis, asthma, back pain, carpal tunnel syndrome, depression, diabetes, hypertension, and osteoporosis. Possibly the single most important of these “healing moves” is this one: yoga “belly breathing” teaches people who have been shallow “chest breathers” to become healthy “abdominal breathers.” Deep abdominal breathing helps establish a state of physiologic calm and can neutralize the negative effects of stress. Here’s a step-by-step lesson in belly breathing, excerpted from “Healing Moves.”

1. Lie on your back and place a book on your belly. Relax your stomach muscles and inhale deeply into your abdomen so that the book rises. When you exhale, the book should fall. You’ll still be bringing air into your upper chest, but now you’re also bringing air down into the lower portion of your lungs and expanding your entire chest cavity.
2. Sit up and place your right hand on your abdomen – just below your navel – and your left hand on your chest. Breathe deeply so that your right “abdominal” hand rises and falls with your breath, while your left “chest” hand stays relatively still. Breathe in through your nose, out through your nose or mouth, and spend a few minutes enjoying the sensation of abdominal breathing.
3. Place a timer or clock with a second hand in clear view. Breathe in slowly, filling your abdomen, as the timer counts off five seconds. Then breathe out slowly to the same count of five. Perform relaxation breathing throughout the day, such as when you awaken and before you go to sleep, in any stressful situation or anytime you hear a bell (phone, door, or church) ring. To enhance your practice of relaxation breathing, try these variations:

Unlike any other bodily function, he notes, “breathing is the only one you can do either completely consciously or unconsciously. It’s controlled by two different sets of nerves and muscles – voluntary and involuntary.” Weil teaches “breathwork” to all his patients, although he notes, “Western medical education at the moment doesn’t include information of this kind.”

“In the four years I spent at Harvard Medical School and a year of internship in San Francisco, I learned nothing of the healing power of the breath,” Weil said. “I learned about the anatomy of the respiratory system, and I learned about diseases of the respiratory tract. I learned nothing about the breath as the connection between the conscious and unconscious mind or that the breath is the doorway to control the autonomic nervous system. I didn’t learn about using breathwork as a technique to control anxiety and regulate mental states; or the possibility that breath represents the movement of spirit in the body; and that breathwork can be a primary means of raising spiritual awareness.”

Eastern healing techniques often prescribe conscious breathing to help restore health to people who are

overly stressed. “In Japan, a diagnosis of autonomic nervous system imbalance is common, but in Western medicine, we don’t have this diagnosis,” Weil says. Under stress, the autonomic nervous system “revs up” the body to fight or flee. Today, since most people neither fight nor flee, the resulting buildup of stress-related chemical and physical changes contribute to a host of common ailments. Western medicine typically tries to deal with the problem by giving drugs to suppress or control the overactive nervous system, Weil says. In contrast, relaxation breathing works to slow down the heart rate, decrease blood pressure, thus bringing the system into balance.

“Unlike drugs,” he says, “it’s free of toxicity, it’s free of cost, and it’s literally right under our nose.”

Techniques that use focused breathing to affect the nervous system, change physiology, and connect the body with the mind can be traced to ancient India, notes Weil, who learned the breathing techniques he uses through the study of yoga and by working with osteopathic physicians.

Color Breathing. Sit or lie down in a comfortable position, and take a deep breath. Allow the ground or your chair to accept the weight of your body as your muscles relax and accept gravity’s pull toward the earth. Visualize the earth beneath you as filled with an energizing shade of red. As you inhale slowly, visualize yourself drawing this energizing red into your body. Imagine it flowing up through your feet, legs, abdomen, torso, arms, neck, and head. Then exhale the red slowly out of your lungs, imagining it filling the air around you so that your body and the space surrounding it form a glowing, energized red ball. Try this exercise with different colors, such as calming green, peaceful silver, tranquil blue, healthy gold, cool violet or warm orange.

Mantra Breathing. Pick a word or phrase that has special meaning to you and mentally recite the phrase in synchrony with your breathing. For example, Zen master Thich Nhat Hahn suggests this phrase: “Breathing in I calm myself, breathing out I smile” or simply “in calm, out smile.” You might try a religious phrase that has meaning to you, such as “Hail Mary full of Grace” for Catholics, “Shema Yisrael” for Jews, “Insha’Allah” for Moslems, or “Om” for Hindus. As an alternative, you might make up a phrase to suit the situation, such as “in energy, out fatigue” or “in peace, out anger.”

Restorative Breathing. Set yourself up in this yoga posture that allows for total relaxation: Lie on your back on the floor with your arms comfortably out to your sides, palms up. Place a bolster, pillow, or rolled blanket under your knees and a folded blanket under your head. Place an eye mask over your eyes if you have one, or wrap your forehead and eyes gently in an Ace bandage (a great headache remedy!). Cover yourself with a light blanket, if desired. Relax your eyes and forehead, let your tongue drop from the roof of your mouth, and let the weight of your body melt into the floor. Focus on your deep abdominal breathing, keeping it slow and steady. If your mind wanders, gently lead it back to your breath. Continue this practice for 10 to 20 minutes.



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“In many languages, the word for breath is the word for spirit,” he notes, citing the Latin spiritus, Hebrew ruach, Greek numa and Indian prana. We lose this linguistic connection in English, he says, except with the words “respiration” and “conspire.”

Many systems of meditation and numerous spiritual practices also center on conscious breathing, Weil notes in his CD, “Breathing: The Master Key to Self Healing” (Sounds True, 1999). “By simply putting your attention on your breath without doing anything to change it,” he says, “you move in the direction of relaxation.”

As yoga master B.K.S. Iyengar explains in his classic guide “Light on Yoga” (Schocken Books, 1966), “Regulate the breathing, and thereby control the mind.”

There is little scientific research documenting the healing power of breathing, in part because its practice is so new in Western medicine. Unlike drugs or devices, breathing has no manufacturer that must sponsor studies to support its use.

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Increased interest in studying the effects of nontraditional healing modalities such as relaxation breathing, led to the founding in 1991 of the Office of Alternative Medicine, now the National Center for Complementary and Alternative Medicine, at the National Institutes of Health. As a result, more medical scientists are beginning to examine the health impact of a variety of mind-body therapies such as meditation, guided imagery, and Eastern self-care practices like yoga, T'ai Chi and Qi Gong, which typically incorporate focused breathing.

One of the few studies that examines a clinical application of yoga “belly breathing” found that menopausal women who learned the technique were able to reduce the frequency of hot flashes by about 50 percent. “The average breathing rate is 15 to 16 cycles (inhaling and exhaling) per minute,” notes Robert Freedman, Ph.D. a professor of psychiatry and behavioral neurosciences at Wayne State

University School of Medicine in Detroit. “But with training, women can slow their breathing down to seven or eight cycles per minute, which can significantly reduce the frequency and intensity of hot flashes.”

Mind-body approaches have been reported in scientific studies to be effective in the treatment of a variety of stress-related disorders, says Herbert Benson, M.D. an associate professor of medicine at Harvard Medical School and director emeritus of the Benson-Henry Institute for Mind Body Medicine at Massachusetts General Hospital in Boston. As an example, he points to research showing that chronic pain patients who learned mind-body, self-care techniques in a ten-week, outpatient program reduced clinic visits by 36 percent for more than two years following the classes.

Slow, deep breathing is central to most mind-body techniques, says Benson, who estimates that “up to half of doctor office visits could be eliminated with greater use of mind-body approaches.” Stress causes or exacerbates a host of medical

conditions that leads to 60 to 90 percent of visits to physicians, he says, adding that training Americans to use self-care techniques could cut U.S. health-care costs by billions of dollars.

Deep diaphragmatic breathing and other mind-body techniques can significantly reduce symptoms of severe PMS as well as anxiety, depression, and other forms of emotional distress, according to research by Alice Domar, Ph.D. He is an assistant professor of obstetrics, gynecology and reproductive biology at Harvard Medical School and executive director of the Domar Center for Complementary Healthcare. In addition, her studies suggest that these practices can combat infertility. In a federally funded study, she found that 55 percent of the women who participated in a mind/body group had a baby, compared to only 20 percent of the control subjects. She has found comparable results in women who attended a clinical program.

“These were women who had averaged three-and-a-half years of unsuccessful efforts to get pregnant,” writes Domar in her book, “Self-Nurture” (Viking, 2000).

“Though we’re still trying to ferret out the biological mechanisms that explain this high percentage, I am convinced that nurturing the mind and body has a powerful effect on hormones and other physiologic parameters, and can stimulate healing in a range of medical conditions – including infertility.”

Proper breathing is the first thing Domar teaches to virtually all her patients. “I start with something I know will work,” she says. “When they breathe diaphragmatically, they’ll feel better within 15 seconds, so they’re hooked.”

To teach the technique, Domar has her patient make a fist and squeeze it tight. “Then I ask them what happens to

their breath, and they realize that they’ve stopped breathing,” she says. “When we get anxious, we tend to hold our breath or breathe shallowly.” Domar then shows patients how to breathe deeply into the abdomen, a process most women tell her runs counter to the “hold in your stomach” breathing they’ve done all their adult lives.

Domar’s favorite stress-reduction technique is a short version of this breath-focus exercise, which she calls a “mini-relaxation” or “mini.”

“You can do a mini when you’re stuck in traffic, at a boring meeting, whenever you look at a clock, or anytime you pick up a phone,” she says. “I have patients who do a mini 100 times a day.” A mini is also helpful for people with medical conditions who can do deep breathing when they’re having an intravenous started or are undergoing chemotherapy.

In our stressed-out world, the fight-or-flight response that kept our ancestors alive has turned into a “stew and chew,” contends Peeke who studied the connection between stress and fat as a senior research fellow at the National Institutes of Health. If no physical response occurs after stress revs the body up for battle, chronically elevated levels of stress hormones stimulate appetite and encourage fat cells deep inside the abdomen to store what she calls “toxic weight.”



Pamela Peeke, M.D., an assistant clinical professor of medicine at the University of Maryland and author of “Fit to Live” (Rodale 2007), incorporates breathwork into her practice, in part by getting her patients to exercise. “It’s very hard to walk and take little panicked breaths,” says Peeke, who frequently takes patients out for a “walk and talk.”

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For this reason, Peeke says, “I’m an absolute crazy person about getting people to move.” She encourages Eastern movement modalities, such as yoga and Tai Chi that rely on taking deep abdominal breaths. She particularly urges patients to do aerobic activity to help neutralize the effects of stress. “When people learn to breathe properly, they can calm themselves,” she says. “Then the stew doesn’t have to turn into a chew.”

In hospitals, breathing techniques once were taught only to women during childbirth. Today, some hospitals have begun teaching relaxation breathing to patients being treated for a wide range of conditions. For example, at Duke University Medical Center in Durham, N.C., nurse clinician Jon Seskevich has taught “soft belly breathing” to most of the more than 23,000 patients he’s worked with since he became a full-time stress and pain management educator/consultant for the hospital in 1990. About 40 percent of the patients he sees have cancer, and the others have a wide range of ailments including heart disease, trauma, surgeries, lung disorders, and general medical conditions.

One of his most dramatic cases involved a lung cancer patient. “I walked into the room to find this very large man literally fighting for breath,” Seskevich recalls. “His pulse oxygen was 74, and you want it to be 90 or above. I sat down next to him and started talking in a calm voice. I asked him if it was okay if I touched his belly. He nodded, so I put my hand on his belly and told him to aim his breath towards my hand and to let his belly be soft then let his abdomen rise into my hand.”

After about six minutes of this “soft belly breathing,” the man’s pulse oxygen was 94 and he was breathing comfortably.

“I didn’t tell him to relax, I showed him how,” Seskevich notes. “All morning people were ordering him to RELAX, and it seemed to make his struggle worse. I just told him to breathe softly into his belly. We didn’t cure his cancer, but we may have saved him a trip to the intensive care unit.”

Patients are hungry for self-care information, says Seskevich. “People are very anxious to learn what they can do for themselves,” he says. “They become empowered by these techniques and they do better.”

Physicians and other health care professionals are eager as well to learn self-care techniques that they can offer their patients and are flocking to continuing education courses offered by mind-body medicine experts. “There are a lot of health professionals today who aren’t satisfied with the tools they have, and to some extent feel lost,” says Gordon of D.C.’s Center for Mind-Body Medicine. “They are looking for ways they can help people again, and which will put meaning back into their practice.”

Gordon’s center sponsors weeklong training programs for physicians, nurses, social workers, and other health professionals. Weil’s Integrative Medicine program will soon graduate its final class of resident physicians and will continue to teach entirely from its well-established, Internet-based associate fellowship program. This innovative curriculum provides continuing education for psychiatrists, oncologists and cardiologists, as well as other health care providers, and includes a unit on breathing and breath work. Harvard’s Benson-Henry Institute has 10 affiliate programs at hospitals around the country.

As graduates of these and similar programs bring mind-body strategies to their practices, teaching breath work and other forms of self-care will soon become a common part of American medical care, these experts predict. “There’s no question it’s driven by consumer demand, coupled with economic forces,” says Arizona’s Weil. “Not only do these strategies work, something like breathing is a pretty cheap intervention.”

“Sometimes I suggest my patients make signs to post in their office, at their computer, or in their bedroom,” Gordon writes in his “Manifesto for a New Medicine” (Addison-Wesley, 1996) – “Signs that simply say, **‘Breathe!’**”

Carol Krucoff is co-author of *“Healing Moves: How to Cure, Relieve and Prevent Common Ailments with Exercise,”* (The Writers Collective, 2004), www.healingmoves.com.