

# Stress Control

## Techniques for Preventing and Easing Stress

### Introduction

Glance at the 10 leading causes of death in America, and you won't find the word "stress" anywhere. Yet many well-respected studies link stress to heart disease and stroke—two of the top 10 killers. Heart disease alone was responsible for nearly one in three deaths in 1999. Stress may also influence cancer and chronic lower respiratory diseases, which rank as numbers two and four, respectively, in the top 10.

Stress has implications for many other ailments, as well. Depression and anxiety, which afflict millions of Americans, can be caused or exacerbated by stress. It also triggers flare-ups of asthma, rheumatoid arthritis, and gastrointestinal problems, such as irritable bowel syndrome. And illness is just the tip of the iceberg. Stress affects you emotionally as well, marring the joy you draw from life and loved ones.

What is stress? Any real or imagined danger or adjustment to change can spark the stress response, a physiological cascade that prepares the body to fight or flee. That swift reflex was encoded in you for survival and can save you from injury or worse. Stress has another positive side as well. Researchers have found that as stress or anxiety increases, so do performance and efficiency—at least initially. At a certain point, though, rising stress becomes detrimental, and performance and efficiency tumble.

Trouble usually brews when the stress response is repeatedly evoked, causing unnecessary wear and tear on the body for less than momentous reasons. According to one estimate, the "fight-or-flight" switch flicks on and off in Americans 50 times a day. In a world bursting with situations that can elicit the stress response—traffic jams, layoffs, illness, money woes, and far more sinister events such as terrorism—that number seems unsurprising. But many health experts believe this is cause for concern.

No one can completely avoid stressful situations. Yet it's entirely possible for each of us to influence how these situations affect us. This special report draws on expertise from the renowned Mind/Body Medical Institute and its Harvard Medical School staff, and distills innovations from fields as disparate as radiology, psychology, and psychoneuroimmunology. Reading it will help you identify triggers for stress in your own life and understand ways in which the stress response affects your body. Applying the techniques in these pages can help you neutralize its damaging effects. This report provides a variety of tools you can use to accomplish that task. Your job is to decide which tools fit you best and to start wielding them.

As the saying goes, Rome wasn't built in a day. It took much longer to raise the scaffolding that supports the negative cycles of stress in your life, too. Learning to dismantle it will also take time. Yet your efforts can reward you richly with better health, greater peace of mind, and a smoother, more joyful course through life.

### Understanding the Stress Response

Just what is stress? Does it have positive attributes? How have decades of research shaped current theories on stress? This section answers these questions and touches briefly on how stress affects the body. The checklist My Warning Signs of Stress will help you identify stressful situations in your own life and learn to recognize your reactions.

### What is Stress?

Stress. That tiny word conjures a clear picture for each of us. You may define stress as bumper-to-bumper traffic, a deadline bearing down fast, a worrisome illness, or a contentious argument with your spouse. A friend may define it as a relationship spiraling downward, the need to care for an ailing parent, or a pile of unpaid bills.

### Stress versus stressors

If you were a medical expert, though, you would label these scenarios stressors, or examples of stressful events and circumstances. Stress itself can be defined more broadly as an

automatic physical response to any stimulus that requires you to adjust to change. Whether it's a sudden car crash, a loud argument, or the ache of rheumatoid arthritis, each real or perceived threat to your body triggers a cascade of stress hormones that produce well-orchestrated physiological changes.

All of us know these sensations intimately. Your heart pounds. Muscles tense. Breathing quickens and beads of sweat appear. But exactly how and why these reactions occur and what effects they might have over time are questions that have intrigued researchers for many years.

### The stress response

The initial hormone Cannon isolated was epinephrine. It's also called adrenaline after the glands where it is manufactured. Next, Cannon found a second stress-response hormone called norepinephrine, or noradrenaline. He also discovered cortisol, which belongs to a second class of stress hormones (known as glucocorticoids) that play key roles in the stress response.

The stress response starts with a signal from the part of your brain called the hypothalamus. Perched above the brainstem, the hypothalamus is a network of nerves wired to the rest of your body through the autonomic nervous system. The autonomic nervous system rules such involuntary body functions as breathing, blood pressure, heartbeat, and the dilation or constriction of key blood vessels and small airways in the lungs called bronchioles. Its two tributaries are the sympathetic nervous system, which revs up the body in response to perceived dangers, and the parasympathetic nervous system, which calms the body after the danger has passed.

### Stress: A Slippery Concept?

Stress is such a slippery concept that there are researchers who argue that the term is no longer useful scientifically. While once used to describe mainly physical phenomena, such as heat or applied force, the word stress now encompasses a much broader array of circumstances that affect humans. Shifting, imprecise definitions and the daunting task of devising ways to measure real-life stressors raise questions about the validity of some research. Weighing the effects of varied stressors is difficult, too. For example, Harvard researchers Laura Kubzansky and Ichiro Kawachi ask, in one of their research papers, "Is a spouse's death equal to prolonged exposure to loud noise?"

Some researchers propose that focusing on certain emotions—anger, anxiety, and depression—would provide stronger, more specific answers about what affects your health. Currently, though, the term "stress" is widely used academically and in the popular press.

When the hypothalamus processes certain information—perhaps the sight of your boss bearing down with an ominous expression or the sound of screeching car tires behind you—it sends a chemical messenger called corticotropin-releasing factor (CRF) down a pathway to the nearby pituitary gland. This stimulates cells in the pituitary to send their own chemical messenger, adrenocorticotropic hormone (ACTH), to the adrenal glands, which spill cortisol into the bloodstream. Surges of adrenaline and noradrenaline are also released by the adrenal glands on instructions from the brain and simultaneously throughout the body by the sympathetic nervous

system. (The powerful triumvirate of the hypothalamus, pituitary gland, and adrenal glands is dubbed the HPA axis. It governs a multitude of hormonal activities in the body and provides a feedback loop that helps switch off the stress response when levels of certain hormones are too high.)

Stress hormones race through your bloodstream to different parts of your body, preparing you to fight or flee. Your breath quickens as your body takes in extra oxygen. Energy-boosting glucose and fats are released from storage sites into your bloodstream. Sharpened senses, such as sight and hearing, make you more alert.

Your heart beats faster—up to five times as quickly as normal—and your blood pressure rises. Certain blood vessels constrict, which helps direct blood flow to your muscles and brain and away from your skin and other organs.

Blood cells called platelets become stickier so clots can form more easily to keep you from bleeding to death from potential injuries. Immune system activity picks up. Your muscles—even tiny, hair-raising muscles beneath your skin—tighten, preparing you to spring into action.

Body systems not needed for the immediate emergency are suppressed. The stomach and intestines cease operations. Sexual arousal is quashed. Repair and growth of body tissues and bones halt.

Cannon believed the stress response was temporary. Minutes after the rush triggered by adrenaline, he thought the body would wind down to its normal balance, a physical state known as homeostasis. That meant your lungs would slow their rate of breathing. Your blood pressure would drop as your heartbeat slowed and blood flowed in normal patterns again. Your intestines would start their work again, providing new fuel to replace the energy burned in the emergency. Bones would resume repairs or start growing again, and sex might appear more inviting.

With the challenge that sparked the stress response behind you and the parasympathetic nervous system exerting its calming influence, the day-to-day business of your body would resume. Later research showed, however, that Cannon was not completely correct.

### The Positive Side of Stress

As many people have noted, the stress response can be enormously helpful. Surging adrenaline enables people to perform Herculean feats. Who can forget the firemen laden with life-saving equipment who charged up flights of smoke-filled stairs in the World Trade Center after the terrorist attacks of September 11, 2001? Or the ordinary citizens who carried injured and disabled people out of the towers?

Fight-or-flight responses are appropriate and essential in such overwhelming situations. When appropriately invoked, the stress response helps us rise to many challenges. These challenges may be external forces, such as a fire or an earthquake, or internal threats, such as your circulatory system teetering on the brink of a deadly collapse. The fight-or-flight response can prove beneficial under far less dangerous circumstances, too.

Physiologist Hans Selye, whose work helped shape modern stress theory, advanced the idea that physical and psychosocial stressors trigger the same physiological response. Selye explored the line between short-term stress that stimulates people to summon the resources to hurdle obstacles (so-called “good” stress) and chronic or overabundant stress, which wears down the ability to adapt and cope (“bad” stress or distress). Two Harvard researchers, Robert M. Yerkes and John D. Dodson, likewise demonstrated that a jolt of stress isn't necessarily bad. They noted that as stress or anxiety levels rose, so did performance and efficiency—up to a point. At this turning point, further stress and anxiety led to significant decreases in performance and ability.

Where that line is drawn or where that turning point falls seems to differ from person to person. For while the stress response is hard-wired into humans and other animals, the events and perceptions that set it off vary widely. What you perceive as a threatening situation, your neighbor may easily brush aside or even relish.

### Stress and its Toll on Your Body

Intuitively, the stress response makes sense. It enables us to rise to occasions and events that reward heightened awareness and abilities. You see a bus rushing toward you, and the surge of adrenaline helps you sprint out of its path far faster than you normally move. The stress hormones that spilled into your bloodstream at the sight of the bus found the perfect physical outlet.

But experience tells us obvious dangers are not the only scenarios that elicit that response. Any situation you perceive as threatening or which requires you to adjust to a change may do the same. That's where the trouble starts.

Your body does a poor job of distinguishing between life-threatening events and day-to-day stressful situations. Anger or anxiety triggered by less momentous sources of stress, such as financial fears or traffic jams, doesn't find a quick physical release and tends to build up as the day rolls on. Anticipation of potential problems, such as anxiety brought on by government warnings of terrorist activity or more personal worry stemming from awaiting medical results, adds to the turmoil. The physical and psychological symptoms of stress—a clenched jaw, shakiness, anxious feelings—compound this, creating a negative, self-perpetuating cycle.

When your body repeatedly launches the stress response or when arousal following a terrible trauma is never fully switched off, worrisome health problems can occur. A prime example of this is consistently high blood pressure, or hypertension, which plays a major role in heart disease. Another is suppression of the immune system, which increases susceptibility to colds and other common illnesses.

### Stress in Short

Stress may contribute to or exacerbate various health problems, including:

Allergic skin reactions

Anxiety

Constipation

Cough

Depression

Diabetes mellitus

Dizziness

Heart problems, such as angina and cardiac arrhythmias

Heartburn

Hypertension

Infertility

Infectious diseases, such as colds or herpes

Irritable bowel syndrome

"Morning sickness," the nausea and vomiting of pregnancy

Menopausal symptoms, such as hot flashes

Nervousness

Pain of any sort, including backaches, headaches, abdominal pain, muscle pain, joint aches, postoperative pain, and chronic pain caused by many conditions

Postoperative swelling

Premenstrual syndrome

Rheumatoid arthritis

Side effects of AIDS

Side effects of cancer and cancer treatments

Slow wound healing  
Trouble sleeping and resulting fatigue  
Ulcers

To the extent that stress causes these ailments, the relaxation response, which is a state of profound rest, and other stress-relief methods can be healing.

#### How to Prevent and Manage Stress

More than a quarter of a century ago, working in the same room at Harvard Medical School where Cannon had labored years before, a cardiologist named Herbert Benson launched landmark research into the damaging effects of stress and the body's potential for self-healing. In the years since, he and many other researchers have investigated the stress response and its antidotes, the relaxation response and other stress-relieving strategies.

Benson is the founder and president of the Mind/Body Medical Institute in Boston, which advises using a combination of approaches for stress relief. Three tasks are key:

Learn techniques that evoke the relaxation response, such as deep breathing and progressive muscle relaxation.

Nurture yourself by setting aside time for relaxation, eating well, exercising, connecting with others, and pursuing activities that add joy to your life.

Use cognitive restructuring, a method of helping you recast negative thought patterns in order to change how you appraise and respond to situations that send your stress levels skyrocketing.

Such self-care is an essential ingredient for good health, according to Benson. The example of cardiovascular disease illustrates how it can make a difference. Currently, millions of Americans take medication to lower blood pressure and unhealthy cholesterol levels, two risk factors for heart disease. Surgical procedures, such as angioplasty and bypasses, can reopen blocked vessels or divert the flow of blood to healthier vessels. These approaches are invaluable. Yet when used alone they form only two legs of a sturdy, three-legged stool that represents the best of modern health care. The third leg, posits Dr. Benson, is self-care approaches of proven worth.

Research shows regularly invoking the relaxation response leads to lasting declines in high blood pressure. Stress-management techniques that nip unnecessary fight-or-flight responses in the bud, such as cognitive restructuring, can also reduce blood pressure. Good nutrition and regular exercise can have a positive effect on cholesterol and blood fats, as well as blood pressure. And social support also has a strong protective effect on health. Over time, the combination of these self-care approaches may ward off serious consequences and reduce or possibly even eliminate the need for certain medications.

#### Learning the Relaxation Response

According to Dr. Benson, the relaxation response is a state of profound rest and release. By regularly practicing techniques that evoke the relaxation response, you can help your body erase the cumulative effects of stress.

A number of physiological changes occur during the relaxation response. When a person meditates, for example, oxygen consumption within the body drops steeply. So does expiration of carbon dioxide. Heartbeat and respiration slow down. Blood lactate levels, which some researchers believe are linked with anxiety attacks, decline markedly. Blood pressure tends to

stabilize in healthy individuals and drop significantly in people with hypertension, whether or not they currently take medication. Studies have shown that this decrease in blood pressure persists with regular meditation.

You can elicit the relaxation response in many different ways, including:

- Deep, diaphragmatic breathing
- Progressive muscle relaxation
- Meditation
- Yoga, tai chi, or Qi Gong
- Repetitive prayer
- Visualization or guided imagery

#### Mindfulness Meditation: The Art of Staying in the Present

The multitasking world we live in undermines mindfulness. When you multitask, you juggle several things at once, such as talking on the phone while driving a car or putting the last, hurried touches on dinner while thinking about tasks you need to accomplish tomorrow. Certainly, it's sometimes helpful to be able to do this. But multitasking encourages racing thoughts. It can launch you into the future or back toward the past rather than root you in the present. In contrast, mindfulness teaches you to live each moment of your life as it unfolds.

There are several ways to practice mindfulness. Mindfulness or insight meditation is an ancient Buddhist practice that induces the relaxation response. It actually focuses you on the distracting thoughts and sensations that may occur during meditation, unlike breath focus, which encourages you to gently disengage from such distractions. Jon Kabat-Zinn, author of *Full Catastrophe Living* and founder and former director of the Stress Reduction Clinic at the University of Massachusetts Medical Center, teaches that facing whatever arises and opening yourself to it is the first step toward transformation and growth. According to Kabat-Zinn, the aim of mindfulness meditation is to allow you to be more aware of your life and its ups and downs—the full catastrophe, according to Zorba the Greek.

#### Power of Prayer

Several large studies suggest that people with an active religious life tend to stay healthier, live longer, and be happier. For example, a review article published in 2000 in the *Journal of the American Geriatrics Society* cited an international study of nearly 170,000 men and women from 14 countries, which found religious affiliation and attendance at services significantly increased the likelihood of happiness and satisfaction. Twelve years of data from 2,800 older adults enrolled in the Yale Health and Aging Study, reported in 1997 in the *Journals of Gerontology*, showed members of religious congregations had a slower onset of physical disability. Other studies on how religion affects health have noted less hostility and anxiety, lower blood pressure, and better quality of life among people with strong beliefs.

Yet controversy over the power of prayer is currently heating up. A study in *Annals of Behavioral Medicine* sifted through research claiming religion and spirituality have positive effects on cardiovascular disease and hypertension. The investigators disputed these results, citing numerous flawed or irrelevant supporting studies.

Nonetheless, it's clear that prayer offers solace and comfort to many people. Religious communities can be part of a larger social network that keeps a person afloat with emotional support and outright assistance. By reinforcing positive emotions, religious belief might stimulate healthy physiological responses through complex nervous system pathways much as a constant flood of negative thoughts may set the opposite reaction in motion. And, of course, certain religions encourage better health habits, such as avoiding alcohol and tobacco.

If prayer is meaningful to you, it can enhance the relaxation response and perhaps your health as well. You may want to use your favorite prayer or a phrase from it to help you focus.

### Using Guided Imagery to Soothe Yourself

These are not the only techniques that can do the job. Others may also be effective. What's crucial, though, is that the method you choose interrupts everyday thoughts by letting you focus on a word, phrase, prayer, or repetitive muscular activity. Once learned, these techniques can be practiced regularly almost anywhere. No special equipment or expert trainer is required, although many people find mind/body programs and meditation or yoga classes helpful as they try to learn a technique.

### Creating a routine

Rather than choosing just one technique to elicit the relaxation response, you can benefit from sampling many. It will help you decide which methods work well for you. And if your favorite fails to engage you sometimes, you will have an alternative.

You may also find it helpful to follow these tips when developing your routine:

Unless you're using a form of exercise to relax, choose a comfortable, quiet spot to sit or lie down. Sitting up will help keep you awake. Lying down may not. And while sleeping is pleasant, it doesn't evoke the relaxation response.

A passive attitude and focal point are essential.

Try to practice once or twice a day. Sticking with a particular time of day can enhance the sense of ritual, which will enable you to relax more easily. Many people choose to elicit the relaxation response in the morning before breakfast since it can be hard to schedule time later in the day. Evidence suggests the more often you practice these techniques, the better the outcome.

A good goal is between 10 and 25 minutes of the relaxation response. Some people take only 10 minutes; others sit for as long as 45 minutes or an hour.

### Relaxing the Brain

A small study of five subjects used functional magnetic resonance imaging (fMRI) to map the parts of the brain that are active during meditation sessions that induce the relaxation response. While global brain activity was lowered, signals increased in areas of the brain involved in attention as well as arousal and control of the autonomic nervous system. This suggests that meditation induces deep relaxation, yet sparks intense neural activity due to the vigilance required to keep the mind from wandering. By shining light on observable biological changes triggered by the relaxation response, this study helps bolster the concept that it is a distinct state and may also build support for its use in modern health care.

### Breath Focus

Breath focus is a form of meditation and the foundation for several techniques, including certain mini-relaxations. While breath focus effectively evokes the relaxation response for people of different backgrounds and religious beliefs, occasionally health problems may make using this technique uncomfortable. The first step to practicing breath focus is to learn to breathe properly.

## The rewards of deep breathing

Deep breathing goes by many names. You may have heard it called diaphragmatic breathing, abdominal breathing, or belly breathing. When you breathe deeply, the air coming in through your nose fully fills your lungs, and you will notice that your lower belly actually rises. The ability to breathe so deeply and powerfully is not limited to a select few. This skill is inborn but often lies dormant. Reawakening it allows you to tap one of your body's strongest self-healing mechanisms.

Why does breathing deeply seem unnatural to many of us? One reason may be that our culture often rewards us for stifling strong emotions. Girls and women are expected to rein in anger. Boys and men are exhorted not to cry. What happens when you hold back tears, stifle anger during a charged confrontation, tiptoe through a fearful situation, or try to keep pain at bay? Unconsciously, you hold your breath or breathe irregularly.

Body image affects breathing, too. The washboard stomach considered so attractive in our culture encourages men and women to constrict their stomach muscles. This adds to tension and anxiety, and gradually makes shallow "chest breathing" feel normal.

The act of breathing engages the diaphragm, a strong sheet of muscle that divides the chest from the abdomen. As you breathe in, the diaphragm drops downward, pulling your lungs with it and pressing against abdominal organs to make room for your lungs to expand as they fill with air. As you breathe out, the diaphragm presses back upward against your lungs, helping to expel carbon dioxide.

Shallow breathing hobbles the diaphragm's range of motion. The lowest portion of the lungs—which is where many small blood vessels instrumental in carrying oxygen to cells reside—never gets a full share of oxygenated air. That can make you feel short of breath and anxious.

Deep abdominal breathing encourages full oxygen exchange—that is, the beneficial trade of incoming oxygen for outgoing carbon dioxide. Not surprisingly, this type of breathing slows the heartbeat and can lower or stabilize blood pressure.

## Choosing Focus Words

Focus words or phrases can enhance your sense of peace, relaxation, and connection while you practice breath focus or other meditations. They may be secular or religious. They can have deep personal meaning or simply be pleasing sounds. Mentally, you might say one word or phrase as you breathe in and another as you breathe out, or just use one word or phrase on the out-breath. Examples include:

Peace

One

Wind

Calm (inhale), Love (exhale)

Ham (inhale), Sah (exhale)

"The Lord is my shepherd" or another short prayer from your own belief system

## Mini-Relaxations: Stress Relief on the Go

Mini-relaxations can be practiced anywhere, often without anyone nearby being the wiser. Although they don't bestow the full, long-term benefits of exercises that induce the relaxation response, minis are a wonderful temporary fix. Physically, the calming power of the three minis described below comes from replacing the shallow breaths many of us normally take with abdominal breathing. This kind of breathing enhances oxygen exchange, slows your heartbeat, and lowers blood pressure. Mentally, all mini-relaxations offer you a way to take a step back

when you feel symptoms of stress. By providing a healthy distraction, they can help derail an unhelpful stress response.

The first time you try the first mini-relaxation described here, pick a quiet, comfortable spot where you can lie down. This will give you the chance to carefully note how abdominal breathing feels. After that, you can use any of these mini-relaxations to allay stress when tempers flare, a medical procedure causes fear or pain, or stacks of bills spill through the mail slot. You'll find other mini-relaxations.

Mini-relaxation #1. While sitting or lying down comfortably, breathe slowly and deeply. Put one hand on your abdomen, just below your belly button. Feel your hand rise about an inch each time you inhale and fall about an inch each time you exhale. Your chest will rise slightly, too, in unison with your abdomen.

Focus your attention on your stomach rising as you inhale, then falling as you exhale. Soften your stomach muscles to allow your diaphragm its full range of motion. A tight stomach makes this impossible. Try breathing in through your nose and out through your mouth. Embrace and enjoy the sensations of abdominal breathing for at least five breaths or as long as you care to continue.

Mini-relaxation #2. Count down slowly from 10 to zero. Take one complete breath, inhaling and then exhaling, with each number. For example, breathe in deeply saying "10" to yourself. Breathe out slowly. As you inhale the next breath, say "nine," and so on. If you feel lightheaded, count down more slowly to space your breaths further apart. When you reach zero, you should feel more relaxed. If not, go through the exercise again.

Mini-relaxation #3. Place your hand just beneath your navel so you can feel the gentle rise and fall of your belly when you breathe. Count very slowly from one to four as each breath comes into your lungs. As each breath leaves your lungs, count very slowly from four down to one. Breathe in, counting: one, two, three, four. Breathe out, counting: four, three, two, one. Continue inhaling and exhaling as you count several times or as long as you care to do so.

## Proper Nutrition

The computer-age aphorism "garbage in, garbage out" applies to far more than software development. The food choices you make can feed your stress or ease it by truly nourishing your body. What you eat plays a big role in your risk of developing many illnesses, including hypertension, heart disease, diabetes, and cancer, which in turn affect your overall stress level. Obesity due to overeating is linked with many ailments, too. It's also a source of stress for millions of Americans who are continually reminded of their failure to achieve the slim look idolized in this culture.

Undernourishment can be a problem, too, especially among older people. According to the research done for the Baltimore Longitudinal Study of Aging, most older men and women in America have nutritional deficits in calcium, zinc, iron, magnesium, folic acid, and vitamins B6, B12, and D. These nutrients affect your energy, bones, heart, mental acuity, and mood. Such nutritional deficits have implications for stress, too.

Food symbolizes far more than sustenance for many people. Some people eat to relieve anxiety or to fill an emotional void. Conversely, eating can be fraught with anxiety for those with eating disorders.

## Making changes

After weighing data gathered from thousands of men and women enrolled in well-designed, long-term studies, Harvard nutrition experts developed the new Healthy Eating Pyramid. The recommendations in Table 1: The New Healthy Eating Pyramid are explained in greater detail in

the book *Eat, Drink, and Be Healthy: The Harvard Medical School Guide to Healthy Eating* by Walter Willet, M.D., chairman of the department of nutrition at the Harvard School of Public Health and professor of medicine at Harvard Medical School.

The diet suggested here may bear little resemblance to what you normally eat. Rather than create more stress about how well or poorly you eat, consider a few simple changes to strengthen your current diet. Could you increase your daily servings of vegetables and fruit? Could you expand your color palette, choosing a range of deep-hued vegetables and fruits, which tend to have more antioxidants and important nutrients? Could you replace some unhealthy fats (such as those found in meat, cheese, and most commercial baked goods) with healthier sources (such as olive or canola oil and fats found in nuts and cold-water fish like salmon)? Could you choose whole grains like brown rice and barley more often than refined grains like white rice or white flour? These simple steps can have a real impact on your health.

Be aware that lasting changes take time. Give yourself credit for every change you make. If you find you need to move more slowly, consider *The 80/20 Solution*.

### The 80/20 Solution

If a glance at the healthy eating pyramid just sent your stress level soaring, consider trying the 80/20 solution. It can help you shift the bulk of your diet from foods laden with unhealthy fats to low-fat foods or foods that contain healthy fats, such as salmon. This plan requires that you eat 80% of healthy foods, while setting aside the remaining 20% for the other foods you enjoy. *Healing Mind, Healthy Woman* (see Resources) by Alice Domar, assistant professor of medicine at Harvard Medical School and director of the Mind/Body Center for Women's Health at Boston IVF, describes the plan in detail. Though not as precise as most diets, over time it should help you cut fat calories out of your diet and work more healthy food into it.

It helps to wean your body gradually from foods high in "bad" fat or replete with empty calories. One example is exchanging whole milk for 2% milk. Then move from 2% milk to 1% milk. Later, try skim milk. Each time you make a change, try it for 2–4 weeks before tackling the next change. Small steps can help keep you feeling satisfied, rather than deprived and desperate.

Keep in mind that caffeine from sources such as coffee, tea, soda, and chocolate can make you feel anxious and affect your ability to relax and sleep. As with alcohol, which is often overused during stressful times, moderation is best.

### Eat mindfully

Food offers comfort and pleasure as well as nourishment. Enjoy it. Take the time to eat mindfully. Set a place for yourself and sit down. Close your eyes for a minute. Inhale and exhale several times to help yourself focus. Bring your full attention to the moment. Look at your food and breathe in its aromas before you taste it. Chew slowly so you can savor textures, flavors, and sensations. Try not to rush through one mouthful to get to the next; relax and eat slowly. Bringing all your senses into play can sharpen your taste for fresher, healthier foods and help break the cycle of stress-related eating.

Think of how you feel before you begin to eat, while you're eating, and afterward. Are you feeling physical signs of hunger, or is it simply "time" for dinner? Are you eating to quell stress or depression? As you become more aware of your true feelings, you may find other stress-control techniques just as satisfying as eating when appropriate.

### Exercise

Nearly every form of exercise offers a host of health-enhancing benefits if performed regularly at moderate intensity. Cholesterol levels, blood pressure, and the immune system all respond

favorably. Exercise boosts metabolism and mood. Research suggests that even so-called lifestyle activities, such as gardening or playing active games with grandchildren, offer many of these benefits.

You can also use exercise to stifle the buildup of stress in several ways. If you exercise shortly after the stress response is engaged—let's say by sprinting away from an oncoming bus—you burn off stress hormones just as nature intended. Just about any form of motion helps relieve pent-up muscle tension. And certain activities, such as yoga, tai chi, Qi Gong, and repetitive exercises, such as running or rowing, elicit the relaxation response, too. Others, like a mindful walk, in which you're very aware of yourself and your surroundings, may not induce all of the physiological changes of the relaxation response, but should leave you feeling calmer and more centered.

A few words of care are in order, though:

If you aren't normally active or have health problems or a painful or disabling condition, speak with your doctor before beginning any exercise program.

When you do exercise, listen to your body. Only perform movements that feel comfortable to you. As you grow stronger or more limber, gradually expand your range.

Try to integrate deep, calm breathing into your routine. You may find it easiest to first familiarize yourself with the movements of the exercises you select and then combine them with deep breathing.

If you wish to try yoga, tai chi, or Qi Gong, join a class with an experienced instructor who can help you learn the movements correctly and adapt the program to your needs.

Choosing exercise with relaxation in mind

**Yoga.** Based on Indian philosophy, yoga is an excellent way to develop body awareness and elicit the relaxation response. The many different types of yoga share certain basic elements: pranayamas, or rhythmic breathing; meditation; and asanas, or stretching postures. One of the most commonly practiced forms is hatha yoga, which has relatively gentle movements that can be tailored to your ability. Like tai chi and Qi Gong, yoga increases flexibility and coordination, releases muscle tension, and enhances tranquility.

**Tai chi.** This series of slow, fluid circular motions originated as a martial art. Tai chi especially benefits older people. By enhancing balance and muscle strength and improving aerobic capacity, it helps prevent falls that can lead to fractures and girds against gradual decline in physical function. One randomized trial published in 1996 in the *Journal of the American Geriatrics Society* concluded that tai chi nearly halved the risk of falling in men and women age 70 or older. Its low-intensity movements produce similar declines in blood pressure as those achieved with moderate-intensity aerobics, according to another randomized study of sedentary adults age 60 or older. Some doctors recommend tai chi for people with osteoarthritis as a way to reduce joint swelling and improve range of motion.

**Qi Gong.** This ancient Chinese art melds breathing, meditation, gentle exercise, and flowing movements. Qi, or chi, is life energy that courses through the body. Qi Gong aims to unblock and properly balance the flow of qi. When practiced regularly, it can decrease blood pressure, lower the rate at which you burn calories (metabolic rate), lessen your demand for oxygen, and lower your pulse. These are all components of the relaxation response. Qi Gong may also enhance balance and flexibility.

**Rhythmic, repetitive activities.** Rhythmic exercises, such as walking, jogging, swimming, or bicycling, can be calming and relaxing. Once you get under way, become aware of how your

breathing complements the activity. Breathe rhythmically, repeating the focus word, phrase, or prayer you've chosen. Remember to adopt a passive attitude. When disruptive thoughts intrude, gently turn your mind away from them and focus on moving and breathing.

A mindful walk. Taking a walk is another alternative. As you move and breathe rhythmically, be aware of the sensations of your body. How does it feel as your breath flows in through your nostrils and out through your mouth? Gradually expand your awareness to the sights and smells around you. Notice the freshly mown grass, flowers, trees, fallen leaves, dappled sun, or gray clouds. How does the outside air feel against your body? How does the surface beneath your feet feel and sound? What thoughts are moving through your head? A slow, mindful walk helps center and relax you. A brisker pace that pushes your limits can be calming and energizing in equal parts. In this case, place more emphasis on the sensations of your body, such as your quickened breathing and heartbeat and the way your muscles respond as you tax them.

## Social Support

Just as a ship is protected by the rubber bumpers that separate it from a hard wooden dock, so, too, do people benefit when social buffers soften the inevitable bumps and bruises of life. Studies show that social ties—at least those that represent positive relationships—significantly protect health and well-being.

In Sweden, researchers following more than 17,000 men and women for six years found that the group that reported the most isolation and loneliness had almost four times the risk of an early death as those with good social networks. California researchers who tracked roughly 7,000 Alameda County residents for nine years found that a lack of strong community and social bonds multiplied the likelihood of dying by nearly two to three times.

Confidants, friends, acquaintances, co-workers, relatives, and spouses or companions weave a life-enhancing social net. Their support may involve outright assistance or may be largely emotional. Studies show that people who have greater social support fare better on measures of immune function when faced with stressors as diverse as caregiving, surgery, exams, and job strain. For example, women with breast cancer who felt they had high-quality emotional support from an intimate relationship, social support from a doctor, and nourishment from other connections had more natural killer cells—capable of destroying virus-laden cells and certain tumor cells—than those who lacked these advantages.

Not surprisingly, the quality of relationships counts. Research suggests negative ones—an embattled marriage or a draining caretaking arrangement—can be more harmful than helpful.

## Strengthening your social bonds

Given the pleasures and benefits of social ties, why not grasp opportunities to expand your social circle and deepen the ties you've already made? Here are some ways to do just that:

If you normally wait for others to reach out, pick up the phone and propose a date.

Explore some of the many volunteer opportunities available, from wielding tools to spruce up affordable housing to mentoring a child or business-person. Check with <http://www.volunteermatch.org> or <http://www.seniorcorps.org> or call your local chapter of the United Way for opportunities that fit your talents and interests.

Harness the warmer side of technology. E-mail and telephones extend your reach around the world. Libraries and senior centers may offer free online time and may even help you set up a free e-mail account.

Find like-minded people through intriguing classes, organizations, and your community newspaper.

If it's hard to get to religious services, ask fellow congregants to escort you. If a significant illness keeps you away, find out if your spiritual leader makes home visits.

Social support is a two-way street. Offer assistance to friends, family, and neighbors and accept it when it's offered to you.

Share a confidence. Doing so can turn a friendly relationship into an even deeper one.

If depression, low self-esteem, or social phobias affect your ability to make connections, seek help. Start by talking with your doctor. Many people have been aided by therapy, medications, or both.

### Nurturing Yourself

Learning to nurture yourself is the second key task in controlling stress. While you may know a great deal about nurturing others, advancing your own needs may not be second nature.

It's common wisdom, for example, that women spend a larger percentage of their waking hours nurturing others than men do. Whether women work outside the home or not, studies suggest they average more time tending house and loved ones. If you're a woman, odds are good that you provide the emotional glue that holds relationships and families together. You buy the birthday cards, pick up the phone to offer help or support when someone's sick, and do much of the work or coordination of services involved in caring for elderly parents, children, grandchildren, and spouses in need of assistance. Our culture expects you to be self-sacrificing. Your own needs may take last place; putting yourself first is cast as selfishness.

### Putting Stress Relief in Someone Else's Hands: The Benefits of Massage

A massage at the hands of a skilled practitioner can be rejuvenating. Research shows massage has a physiological impact, too. It lowers blood pressure and heart rate and may enhance certain measures of immune function. One small controlled study, published in the International Journal of Neuroscience in 1996, of HIV-positive and HIV-negative gay men found significant increases in natural killer cell activity in the group that was given daily full-body massages for a month. A similar 2001 study of HIV-positive adolescents found those assigned to massage therapy rather than progressive muscle relaxation twice a week for 12 weeks had enhanced immune function and reported less anxiety and depression.

Whether it's for therapeutic reasons or purely for pleasure, massage offers the comforts of a warm touch and release from muscle tension. There are currently no national licensing requirements or standards for massage therapists. Experienced practitioners can be found through professional organizations, such as the American Massage Therapy Association (<http://www.amtamassage.org> or 888-THE-AMTA) and the National Certification Board for Therapeutic Massage and Bodywork (<http://www.ncbtmb.com> or 800-296-0664).

For men, our society places great emphasis on getting ahead. As the saying goes, when the game ends, he who has the most toys wins. That can encourage a single-minded focus on career to the detriment of other activities. Men are discouraged from indulging their nurturing side.

Just as women are pressed from the get-go to give to others, men are pushed toward the receiving end. That creates imbalances and potential sources of distress for both sexes. If you're a woman, you may not feel comfortable taking time to refresh yourself. If you're a man, you may not have much practice creating your own nurturing rituals and, like your female counterpart, you may feel uneasy doing so. Clearly, women and men can benefit from learning to focus on themselves in healthy, rejuvenating ways.

## Learning the art of self-nurture

The art of self-nurture is not a single technique. Rather, it's an overarching concept for your life, says psychologist Alice D. Domar in her book *Self-Nurture*. The spark you gain from nurturing your imagination, career, relationships, sex life, or spiritual side amplifies the healing effects of other stress-relief techniques.

The many, varied options for self-nurture include:

- Journal writing
- Cognitive restructuring
- Relaxation exercises
- Affirmations and prayer
- Seeking social support
- Creative, productive, and leisure activities

### Affirmations

Affirmations are statements that express love, acceptance and, often, a joyous vision for your self and your life. A stream of positive thoughts can drown out more negative ones. Try incorporating simple affirmations, such as "I breathe in healing" or "I breathe out tension," into relaxation techniques. Or paste them to your mirror or another prominent place where you can read them several times a day. The more often you repeat an affirmation, the more likely you are to believe it and act on it.

Whether you write your own affirmation or borrow one from a helpful bumper sticker ("One day at a time"), the words should resonate for you. When creating an affirmation, choose a stressful aspect of your life and decide what a positive outcome would be or how you wish you felt about the situation. Try to craft first-person present-tense statements:

- "I can do this."
- "I am doing my best."
- "I am calm."
- "I deserve respect."
- "Week by week, I am growing healthier and stronger."
- "I can relax my body."
- "I am a loving, caring person."

Imagine these techniques and self-nurturing acts as dry seeds for a garden. Lush growth rewards those who do more than scratch the earth, toss in a few seeds, and step back to see what comes up. Dig deep. Water frequently. Remove choking weeds from the plot when necessary. Combining the richness of your past experiences, a willingness to expand your current boundaries, and a desire to fill your life with courage, love, and joy can make a great deal of difference in what you reap.

### Creativity, productivity, and leisure

The nerve-jangling pressure of lengthy daily "to do" lists can leach away energy. The thought of adding more items to the list may fill you with more dismay than delight, even if the addition is relaxation, creativity, or time with a loved one. Yet when you refresh yourself in ways that are meaningful to you, you add to your stock of energy and joy.

What does "creativity" mean to you? Writing a short story? Sculpting clay? Designing a retreat? Pulling out a paint box? Dancing around the room? Building a deck? Cooking up a feast? Landscaping a garden?

If you have a dream you've never explored, find small and big ways to follow through. Sing in the shower, take lessons from a pro, or try out a song in front of friends. If you have no idea where to turn, sign up for a class you think you might enjoy. Give yourself the opportunity to try a variety of options. Don't give up if the first one fails to captivate you or if the results of your effort don't meet your expectations. Discover what creative work you love and do it.

Productive work forges links between you and the world and invests life with meaning. It matters little whether these tasks are performed via a paid or volunteer job or while digging in the garden. They offer pleasure and sometimes the chance to be creative.

If you're retired or find that the work that pays your bills offers few opportunities for satisfaction, indulge your productive side elsewhere. The simplest task, such as slicing vegetables for dinner or scrubbing a floor, may be less tedious and more joyful if you approach it mindfully. Jobs that involve other people can spark connections that nurture you in other ways. Work that benefits others often offers special satisfactions. Such volunteer opportunities abound for people of every age and level of ability. Check with <http://www.volunteermatch.org> or <http://www.seniorcorps.org> or call your local chapter of the United Way for tasks that fit your talents and available time.

The job many of us find hardest is setting aside time for pursuits defined as leisure. Reading a novel, playing a game of tennis, soaking in a hot bath, or spending a half-hour meditating may seem like selfish activities. Productive and even creative pursuits are more likely to meet with accepting nods. Yet playfulness invites joy back into your life. And relaxation enhances "flow," a state described by psychologist Mihaly Csikszentmihalyi in which creative juices are freed and their full expression is directed to all pursuits.

So, stretch out on a hammock for a nap. Enjoy a massage. Carve out 20 minutes during your busy day for breath focus or progressive muscle relaxation. Soak in the sounds of music you find calming or invigorating or simply pleasurable. Taking this time for yourself helps ward off exhaustion and burnout, allowing you to focus more attentively and less resentfully on the tasks of your day. Consider it a gift to yourself that also pays dividends to others.

#### A Warning on Kava

As an herbal supplement promoted for its ability to relieve stress, quell tension, and cure sleeplessness, kava was seductive to many people. It was natural, after all, derived from a leafy South Pacific plant. But in December 2001, after reports of 30 cases of liver toxicity surfaced in Europe, kava came off the shelves there. In the U.S., the FDA promised a full review of adverse reactions to kava (which ranged from hepatitis to liver failure) and later issued an advisory warning that those who took supplements containing kava risked severe liver injury. The best advice is to avoid supplements with kava.

So-called natural supplements are not tested for safety or effectiveness in the U.S., nor are manufacturers held to standards that ensure you get what appears on the label. The case of kava serves as a reminder that natural isn't synonymous with safe, and unproven approaches to stress relief don't always deliver as promised.

#### Journals: Easing Stress the Write Way

If you're like most people, you've learned to bottle up "unacceptable" emotions, such as anger, fear, frustration, and grief. Sometimes, of course, the cap slips off. Then these emotions are let loose at high intensity, though not necessarily in the right direction. One safe way to decant any emotions—even the most hurtful, terrifying, or sad feelings—is journal writing. A blank sheet of paper and a pen can offer enormous release and, possibly, insight into hidden conflicts.

Writing about traumatic events can have physical benefits, too, according to psychologist James W. Pennebaker, who began studying this issue in the late 1970s. A series of studies required one group of people to write down their deepest thoughts and feelings about the most traumatic event they recalled. A control group wrote only about trivial events. Both groups wrote for 15 minutes a day for four days. In one study, the group that expressed deep emotions reported feeling better and also had significantly fewer doc