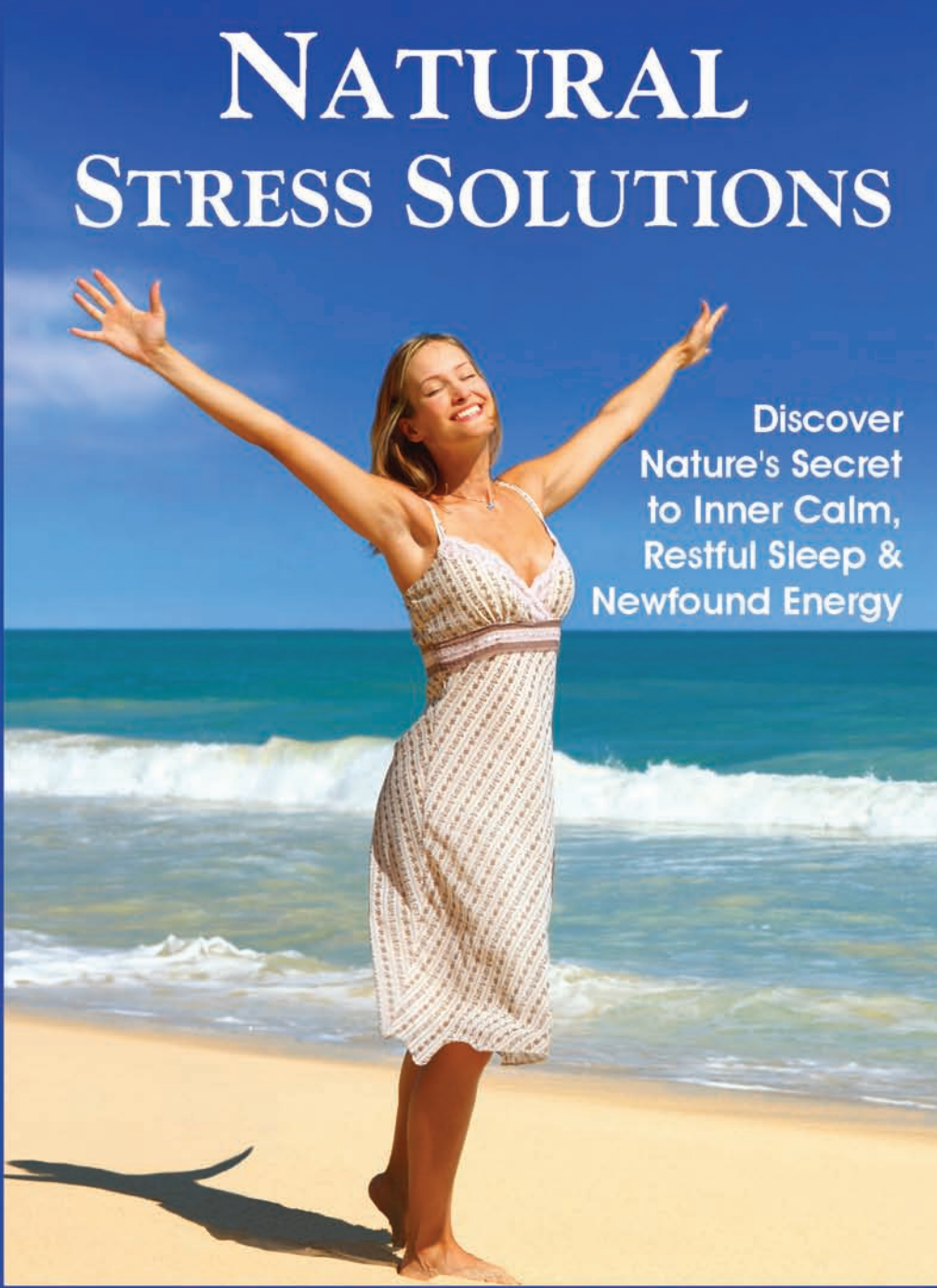


# NATURAL STRESS SOLUTIONS



Discover  
Nature's Secret  
to Inner Calm,  
Restful Sleep &  
Newfound Energy

SUSAN SMITH JONES, PhD

The information and advice contained in this book are based upon the research and personal and professional experiences of the author. They are not intended as a substitute for consulting with a health care professional. The publisher and author are not responsible for any adverse affects or consequences resulting from the use of any of the suggestions, preparations, or procedures discussed in this book. All matters pertaining to your physical health should be supervised by a health care professional.

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# Introduction

If you often feel like the demands of your daily life exceed your ability to meet them, you're definitely not alone. The state of feeling “stressed out” and “overcommitted” is a growing phenomenon among millions of Americans.

*Time* magazine may have singled out stress as the “Epidemic of the Eighties,” but that was well before the Internet and social media significantly sped up the pace of most people’s lives and the prolonged wars and global economic troubles at the turn of the 21st century piled on additional woes.

Today, 1 million North Americans are absent on any given workday due to stress and stress-related disorders. 79% to 90% of all visits to primary health-care practitioners in North America are due to stress-related illnesses or complaints.



In mankind’s prehistoric days roaming savannahs and sleeping in caves, the stress response was actually a good thing. Our built-in “fight or flight” system provided our bodies with the energy needed



to escape from a predator or secure scarce resources. Though this type of high-intensity, short-term stress was beneficial for our survival, our bodies were not designed to withstand the type of chronic, long-term stress that is so prevalent today. The same cascade of hormones released during a physically stressful event (like running away from a lion) is released when we undergo a psychological stressor like marital conflict, unreasonable work demands, and economic worries. The difference is that we typically do not respond to these kinds of chronic stressors with vigorous physical activity (e.g. fighting or running away), and they do not have a finite end point. Consequently, our bodies may be continuously exposed to stress hormones, especially cortisol, and over time, this can add up to serious health problems.

Chronic stress has an impact on every aspect of our physical and mental wellbeing. Studies have shown that being under prolonged stress can lead to weight gain, fatigue, fluctuations in blood sugar, bone loss, a compromised immune system, and anxiety/depression. Having continuously elevated levels of the stress hormone cortisol has been linked to the development of inflammatory diseases, insulin resistance, diabetes, obesity, and heart disease.



It's clear that given the demands of life in the 21st century, we're unlikely to see a reduction in Americans' overall stress load anytime soon. And of course, there's no magic "pill" that one can take to entirely eliminate stress and protect his or her body from its damaging effects. In fact, "self-medicating" with substances like tobacco and alcohol, while providing temporary feelings of relaxation, can exacerbate negative health outcomes.

Health professionals typically advise individuals to find ways to reduce stressors in their lives and practice stress-management techniques. In this booklet, we'll review some of the most effective stress-reducing strategies, including eating a healthy diet, getting adequate sleep, exercising regularly, and incorporating relaxation routines such as meditation and yoga. However, the irony of recommending stress-management techniques is that many of those who suffer most from chronic stress do not have the time or wherewithal to implement them. If you are stressed to your breaking point, you may wonder, how will you ever have time to incorporate yoga or extra hours of sleep into your daily lifestyle?

That's where herbs come in. The aim of any stress-reducing program is to diminish the body's exposure to chronically high amounts of the stress hormone cortisol. While that can be achieved through lifestyle changes, it can also be hastened by healing herbs. The cornucopia of herbs and vitamins discussed in this booklet can help keep cortisol levels in an optimal range, even when a person is experiencing stress. This can significantly help mitigate the



negative health impacts of stressors in our lives that we simply cannot put aside. Best of all, when you turn to nature's medicine chest, you can find relief naturally and without the dangerous side effects associated with recreational drugs or many pharmaceuticals.

First, I'll give you an easy-to-understand overview of the body's stress response system. Next, I'll discuss in detail the health risks posed by chronic stress. I'll go on to show you how a few simple lifestyle changes can help lessen the stress load on your body. Finally, I'll point the way to healing herbs that can help buffer you from damaging effects of the stress hormones and answer your most frequently asked questions about using herbs to manage stress. I hope that after reading this booklet, you'll learn that stress doesn't have to stress you out!





## CHAPTER 1

# The Stress Response

In the 21st century, with all of our advanced computer and medical technology, we may pride ourselves on how advanced we are as a species. The truth, however, is that when it comes to the stress response, we're no more advanced than our caveman ancestors. The very same body processes that helped early man dodge saber-toothed tigers occur when we grapple with everything from modern-day traffic jams to fights with our spouse. In fact, biologically speaking, we're not so different from baboons and zebras in this respect—a similar cascade of nervous system and hormonal activity occurs when animals must either fight or flee from a predator. The difference, of course, is that humans can become stressed merely by *thinking* about a stressful event and perceive stress even when their lives are not in immediate danger (Reed 16). As well, the stresses we endure today are less likely to be resolved simply by running away—the mortgage bills, deadlines, and social expectations will not stop coming. In order to understand the health impacts of the type of chronic stress so prevalent today, it's important to first understand the biological processes that are triggered when our brains perceive an event as stressful.



## ACUTE STRESS RESPONSE

Because the body was designed to respond to acute stressors such as escaping a predator, the stress response provokes rapid changes in the body to assist in survival (“fight or flight”). This response implicates our sympathetic (involuntary) nervous system as well as our endocrine (hormonal) system. Within seconds of a stressful stimulus, your sympathetic nerves are activated, resulting in increased heart and breathing rate, dilation of blood vessels to important muscles, increased blood pressure,



sweating, dilation of pupils, and sharpened awareness (Reed 38– 39). If you’re running from danger, you will certainly appreciate these changes, as they will spur you into action and augment your physical capabilities. However, if you’re about to give a speech in front of a large audience, these physical adjustments will no doubt feel uncomfortable!

At the same time as your sympathetic nervous system is preparing your body to escape the stressful stimulus, your endocrine system is busy coordinating the release of hormones. This part of the stress response occurs along what is



known as the HPA (hypothalamus-pituitary-adrenal) axis. First, a stressful event causes the hypothalamus, a part of the brain linked to emotional circuitry, to secrete a hormone called corticotropin-releasing hormone (CRH). CRH then travels to the pituitary gland, the body’s master endocrine gland just below the hypothalamus, and stimulates the secretion of adrenocorticotropic hormone (ACTH) into the blood. ACTH makes its way to the adrenal glands, which sit



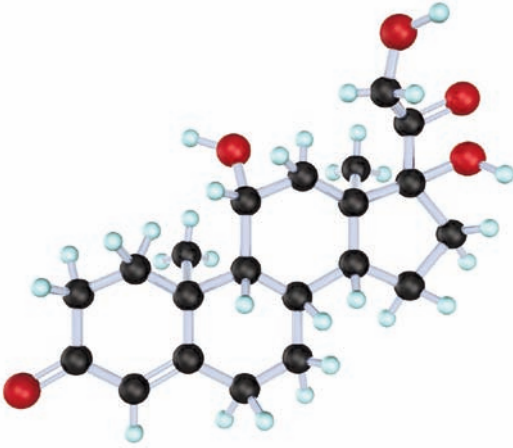
atop the kidneys, and signals the release of several stress hormones. The adrenal medulla (central part of the gland) releases adrenaline and noradrenaline while the adrenal cortex (outer shell of the gland) releases cortisol (Talbot 41, Reed 30–34).

The effects of adrenaline on organs and tissues are very similar to the direct stimulation of the sympathetic nerves. We’re all familiar with the feeling of an “adrenaline” rush, such as when we hop on a roller coaster or are about to talk in front of an audience. Heart and breathing rates increase, blood pressure increases, and we become more attuned to our surroundings. Adrenaline’s impact is powerful but short-lived, designed to provide a quick boost to our system in a moment of urgency. The hormone only lasts for a few minutes in the bloodstream before it is broken down.

The effects of cortisol,



on the other hand, are more potent and far-reaching, and they last much longer. Cortisol is known as a glucocorticoid because it touches off metabolic processes that increase the concentration of glucose



(sugar) in the blood (Talbot 42). It releases amino acids from the muscles, glucose from the liver, and fatty acids from the bloodstream for use as energy by the brain and muscles in order to deal with the stressor. Processes not essential to fight or flight, including growth, reproduction, and tissue repair are temporarily shut off so the body can use all

of its energy reserves to protect itself from a threat. While adrenaline only hangs around for a few minutes, cortisol persists for up to one or two hours after initial release. Presumably, this is the body's way of staying "on alert" should another threat closely follow the initial one.

Once an acute stressor is resolved, it's important that the body returns to its baseline state so that it can recover and normal processes that were stopped can be restored. The fight or flight response is shut down through what's known as a negative feedback system, and cortisol plays an integral role in this as well. Cortisol travels back through the blood to the hypothalamus and pituitary gland, where it binds to cortisol receptor sites, signaling that the hypothalamus can cease its production of CRH, thereby preventing the pituitary gland from releasing additional ACTH and the adrenal glands from releasing any more stress hormones. Once the stress response is completely shut down, the body shifts to storage mode, producing insulin to counter the high glucose levels and replace depleted energy stores. That "adrenaline rush" feeling is replaced with a stimulus to rest and sleep (Reed 39).

The stress response is expertly designed to deal with acute stressors. The body gets all the energy and stimulation needed to outfox a predator, remains alert should additional danger be close at hand, and is then coaxed back into homeostasis, all within a few hours time. But what if the stressor is not acute but chronic? How does the body respond when a threat is ongoing and unlikely to resolve?

## CHRONIC STRESS RESPONSE

When we experience a chronic as opposed to acute stressor, there is no opportunity for fight or flight. Our bodies become “stuck” halfway through the stress response because there is no way to resolve the stress, and the HPA axis feedback loop that is supposed to shut off the secretion of cortisol malfunctions. The hypothalamus remains active, CRH and ACTH continue their cascade, and cortisol levels in the body remain continuously elevated.

While a small amount of cortisol is essential to normal bodily functions, the constant presence of high levels of cortisol disrupts the body’s natural cycle. In those with a healthy stress response, cortisol mirrors our circadian rhythms—levels are low late at night when the body is relaxed (midnight to

2:00 A.M.) and highest early in the morning (6:00 A.M. to 8:00 A.M.) or during acute stressors and exercise. In those with chronic stress, cortisol levels are moderate around the clock; they neither spike in response to an acute stressor nor fall when it’s time for relaxation (Talbot 29).

This kind of “flat” cortisol rhythm induced by chronic stress can impede our body’s ability to regulate itself in the face of further stress. When the body is unable to rid itself of excess cortisol, this sets



off a vicious cycle, as a stressed body induces even more stress, producing more cortisol, and so on. After prolonged overexposure to cortisol, the hypothalamus can become insensitive to the stress hormone as its



cortisol receptors decrease in number and sensitivity (Reed 42), thereby further undermining the hypothalamus' ability to shut down the fight or flight reaction. The body's stress response may become overexaggerated, getting trip wired for even the smallest stressor.



Conversely, it can become underexaggerated in the face of major stressors. Constant stimulation of the adrenal glands via chronic stress can result in adrenal exhaustion. When you really need that shot of adrenaline or cortisol, as in a true life-threatening emergency or illness, your adrenals will not be able to rise to the occasion. Exposing your body to chronic stress is the equivalent of “crying wolf” to your HPA axis.

It's clear that chronic stress significantly disrupts the HPA axis and the body's natural cortisol rhythms. But aside from that, scientists are learning

that the continuously elevated levels of cortisol resulting from chronic stress have devastating effects on our overall long-term health, affecting nearly every body system. In the next chapter, we'll look at the critical health risks of unrelenting stress.

## CHAPTER 2

# The Health Risks of Chronic Stress

In American society, we often reward those who subject themselves to high levels of chronic stress. Television reality shows give prizes to contestants who jump through the most stressful hoops, corporations reward Type-A CEOs with million-dollar bonuses, and we often look to the most skilled multitaskers with a mixture of admiration and envy, wondering “How does she do it?”

But on a physical level, there are no rewards to be had from subjecting ourselves to constant stress. As we learned in the previous chapter, cortisol is a potent stress hormone that reaches every tissue of the body and can remain consistently elevated when an individual experiences chronic stress. While small amounts of cortisol are essential to metabolic functions and levels naturally fluctuate in a healthy individual, excess cortisol associated with a chronic stress response sets the stage for a cornucopia of disease processes that underlie many so-called “diseases of civilization.”



### DIABETES, OBESITY, AND SYNDROME X

The way cortisol affects blood sugar and fat storage can lay the groundwork for a host of metabolic diseases. Remember that one of cortisol’s primary functions is to increase levels of glucose (sugar) in



the blood for use in fight or flight. As a result, cortisol shuts off the body's storage function and, in turn, causes cells to become unresponsive to insulin. Insulin is primarily a storage hormone—it's responsible for squirreling away fats, sugars, and amino acids in cells and muscles for later use. If the body is chronically stressed and

elevated cortisol levels direct cells not to respond to insulin, over time this can lead to insulin resistance, a precursor to Type 2 diabetes.

Another pitfall of cortisol is that it ramps up appetite, because it's trying to coax the body to replace the energy lost during an acutely stressful event (Talbot 22). This can lead to cravings for fast-energy foods full of unrefined sugars and carbohydrates—it's not an accident that you crave a donut and mocha frappuccino after getting out of a stressful meeting! The problem, of course, is that instead of burning off energy with fight or flight, we're likely to just sit at our desks for the rest of the day. Over the long term, chronically elevated cortisol is associated with packing on the pounds. High levels of cortisol are also correlated with a decrease in the basal metabolic rate (BMR), or the number of calories burned at rest (Talbot 88), which means that at the same time as you're consuming more sugary foods, you're also burning fewer calories. Furthermore, as levels of cortisol and insulin rise, fat cells are being instructed to hold onto their stores. In the long run, that can reduce the body's ability to lose fat once it is gained. It's no wonder that scientists have found a correlation between elevated cortisol and obesity.



To make matters worse, extra weight added as a result of elevated cortisol often accumulates in the abdominal area. The reason is unknown, but some researchers hypothesize that fat in the



abdomen can be more quickly accessed during a stressful event than fat in the extremities. However, abdominal fat seems to be more dangerous to overall health than deposits in other areas. It's a risk marker for heart disease, diabetes, hypertension, high cholesterol, and metabolic syndrome, also known as syndrome X (Talbot 86).

Syndrome X appears to be the final domino in a series of metabolic changes that begin with stress, elevated cortisol, and diets high in refined carbohydrates, and develop into a cluster of related conditions. Individuals with syndrome X concurrently exhibit abdominal obesity, high blood pressure, insulin resistance, diabetes, high cholesterol, and cardiovascular disease. Some studies estimate that up to 25% of the population in the United States suffers from the syndrome, and rates are on the rise.

## FATIGUE AND INSOMNIA

It should come as no surprise that stress and insomnia go hand in hand. When you've been through a stressful day and are worried about further stress that awaits the next morning, it's difficult to quiet your mind and get to sleep—no matter how fatigued you are. This is because the stress hormone cortisol increases alertness. If you get inadequate rest (less than 8 hours), then your fatigue will no doubt make it difficult to cope with the demands of the day, further compounding your stress and setting off a circular cycle wherein stress begets insomnia, insomnia begets stress, and so forth.

When you have trouble falling asleep, chances are you'll also be cheating your body out of its natural cortisol rhythm. In Chapter 1, we learned that cortisol levels are typically lowest late at night (midnight to 2:00 A.M.) and highest early in the morning (6:00 A.M. to 8:00 A.M.). If you go to bed in the wee hours due to insomnia, you're exposed to higher than normal levels of cortisol throughout your sleep. Furthermore, cortisol levels never fall low enough for our bodies to repair the damage of the day's chronic stress, leaving us vulnerable to an assortment of ailments.



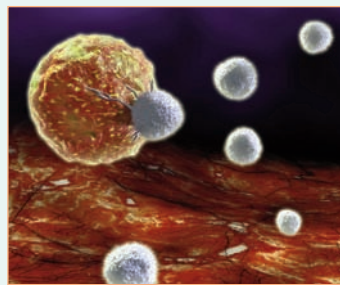
The perils of sleep deprivation are well-documented. Inadequate sleep sets the stage for diabetes and obesity because blood sugar levels rise along with appetite and cravings for refined carbohydrates. Being sleep deprived—even to a mild extent—has been linked with fatigue, headaches, depression and anxiety, a compromised immune system, and breast cancer.



## COMPROMISED IMMUNITY

If you ever got sick during finals week at school, you know that times of stress can lower your resistance to illnesses. But did you know that cortisol is one of the main culprits in compromising the immune system?

When it is first released, cortisol initially ramps up the immune system for the first few minutes as the body prepares to respond to an acute stressor. But when a stressor is chronic and cortisol continuously remains in the bloodstream, two things can occur. First, immune cells can become overstimulated, turning their ability to destroy pathogens onto the body's own tissues. When this occurs, autoimmune diseases from allergies and asthma to rheumatoid arthritis, lupus, and Crohn's disease can result. Second, immune cells can actually begin to break down. Cortisol is known to suppress the ability of white blood cells to secrete substances that help various types of immune cells effectively coordinate an attack against invaders, leaving the body ill equipped to defend itself against infection.



In particular, chronic stress has been shown to reduce the number of natural killer (NK) cells—responsible for identifying viruses and cancer cells—by as much as 50 percent. Research has also demonstrated that cortisol can accelerate the growth of certain kinds of tumors. The stress hormone compromises the body's ability to fight cancer; in one study, breast cancer patients with a “flat” cortisol

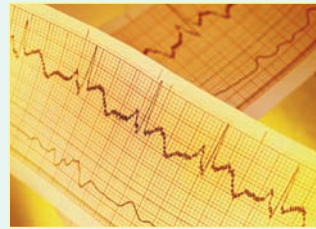


rhythm had a poorer prognosis than their counterparts with a normal cortisol rhythm.

The body's first line of defense against invading pathogens is the microflora of beneficial bacteria in the gut. "Good" bacteria keep "bad" bacteria in check and secrete vital substances that activate the body's immune system. It has been shown that heightened stress levels can disrupt this delicate balance, decreasing the numbers of beneficial bacteria and allowing bad bacteria to proliferate. Not only can this lead to digestive disturbances but also the development of upper respiratory infections and other infectious illnesses.

## CARDIOVASCULAR DISEASE

Whether you're sitting in a traffic jam or preparing to give a public speech, the impact of the stress response on the cardiovascular system is very tangible. You'll feel your pulse race and may even sense an increase in blood pressure as it races through your veins. Your body is preparing you for the vigorous physical challenge of fighting or fleeing from a stressor, so these cardiovascular changes make sense—unless that stressor is psychological and no physical effort whatsoever is expended in dealing with it.



Over time, of course, chronic activation of the cardiovascular system as a result of a prolonged stress response can lead to heart disease. Increased blood pressure begins to damage the interior lining of blood vessels, which in turn lays the groundwork for cholesterol to build up in the arteries. Cortisol has a pro-clotting effect on blood cells because it is preparing the body for possible injury during fight or flight. These three factors—elevated blood pressure, the buildup of arterial plaque, and increased clotting—can create a perfect storm for a heart attack or stroke.

## ANXIETY, DEPRESSION, & COGNITIVE FUNCTION

When life's seemingly endless stressors feel like they're wearing you down, depression and anxiety may be close at hand. Research from



the University of Michigan found that 90 percent of episodes of depression are attributable to stressful life events. One of the contributing factors may be elevated cortisol levels.



Individuals suffering from depression exhibit higher than normal levels of cortisol along with lower than normal levels of brain chemicals that signal pleasure in the brain, including dopamine, norepinephrine, and serotonin. Anxiety disorders including panic attacks and obsessive compulsive disorder are also associated with the elevated cortisol levels of the chronic stress response.

Prolonged stress interferes not just with our emotional wellbeing but also with our cognitive functions like memory. Chances are you've experienced forgetfulness during periods of intensive stress (who hasn't misplaced their keys while rushing to get to an important meeting?), but over time chronic stress can lead to full-blown memory loss. Initially, the stress response may improve brain function as increased blood, oxygen, and glucose are funneled to the brain. However, eventually cortisol reduces brain cells' ability to take up glucose—their only nutrient source—and causes them to shrink. Stanford stress researcher Robert Sapolsky has demonstrated that chronic exposure to stress can actually change brain circuitry and kill brain cells, especially in the hippocampus, a part of the brain responsible for learning and memory. This can ultimately make it difficult for the brain to store new memories or recall old ones.



## GASTROINTESTINAL DISTRESS

The classical stereotype of a stressed-out individual has long been someone ridden with stomach ulcers. For decades, doctors believed that ulcers were caused by stress and consequently prescribed changes in lifestyle as the only cure. Then, the discovery that 80% of



ulcer sufferers have an overgrowth of the *Helicobacter pylori* bacterium in their stomach lining led to the assumption that bacteria, not stress, causes ulcers. Doctors began prescribing antibiotics to treat them, and the case was considered closed.

But it shouldn't have been. Further research revealed that the majority of the population carries the *H. pylori* bacterium in the digestive tract. Why do some individuals experience overgrowth and some do not? You guessed it: stress.

The fight-or-flight response shuts down two important systems necessary to healthy structure and functioning of the digestive tract: digestion and immunity. When blood is diverted from the stomach and gut to the heart and muscles during the acute stress response, digestion shuts down, secretion of saliva and digestive enzymes are slowed, and substances that typically protect the lining of the digestive tract from acidic gastric juices are diminished.

If these systems are shut down in a prolonged fashion due to chronic stress, the body is primed for digestive distress and damage to the digestive tract. A lack of sufficient digestive enzymes leads to improper digestion of food, which can induce nausea, constipation, gas, and bloating. Gastric acids damage the lining of the gut and colon, and because the immune system is compromised, the body

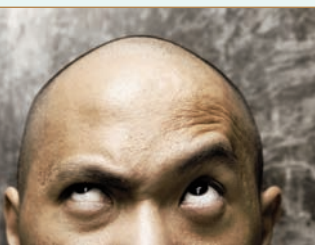
cannot properly repair the tissues. Immune cells are unable to effectively fight *H. pylori*, which proliferate and cause further damage, resulting in ulcers.

Irritable bowel syndrome (IBS) is another gastrointestinal disorder influenced by stress. It is characterized by abdominal pain accompanied by either prolonged diarrhea or constipation, or alternating periods of both. Though there are varying theories as to the causes of IBS, the disease in all its forms is exacerbated by stress. Both diarrhea-predominant and constipation-dominant IBS are associated with

elevated cortisol levels and increased inflammatory markers, evidence of a suppressed immune system.



## OSTEOPOROSIS AND ARTHRITIS



We may joke that we're so stressed that our hair is falling out or face is creased with wrinkles of worry. However, these exaggerated manifestations of stress aren't just jokes. In truth, elevated cortisol levels accelerated the breakdown of connective tissues that are the building blocks of our skin, hair, and nails. Prolonged

stress can leave us with thin hair, dry and atrophied (wrinkled) skin, and brittle fingernails.

If stress can have such a considerable impact on your external tissues, think what it can do to your internal ones. Cortisol also reduces levels of connective tissue grown in your bones, joints, and muscles. Cortisol levels naturally rise as we age, and joint, bone, and muscle loss is associated with the aging process. Such atrophy is not inevitable; research shows that regular exercise incorporating strength training can suspend and even reverse loss of bone, muscle, and cartilage. But at the same time, chronically elevated cortisol levels induced by stress can accelerate the deterioration of our musculoskeletal system. Cortisol inhibits the activity of cells that build bone, muscle, and cartilage at the same time that it speeds up tissue breakdown. The result is that elevated cortisol levels are associated with an increased risk of osteoporosis, a disease in which bones become thin and easily broken, and osteoarthritis, in which the cushioning joints at the juncture of bones wear down.



Clearly, there are few body systems spared from the damaging effects of prolonged stress and exposure to cortisol. The shutdowns of glucose storage, digestion, and immunity along with increased appetite, alertness, heart rate, blood pressure, and cell breakdown prove to be a deadly combination for our long-term health. In the next chapter, I'll give an overview of lifestyle practices that are proven to combat stress, thereby buffering you from the devastating consequences of chronically elevated cortisol levels.

## CHAPTER 3

# Stress-Busting Lifestyle Practices

**T**here's no better way to reduce the effects of stress on your body than to simply reduce the amount of stress in your life. However, for most of us, that's easier said than done! Bills, deadlines, caring for young children or older adults, and other common stressors are rarely optional. Luckily, research shows that incorporating stress-management practices into your lifestyle can significantly reduce the levels of stress hormones in your body and consequently moderate their devastating effects on your long-term health.

### GET ADEQUATE SLEEP

Getting a good night's rest is by far the best thing you can do to keep elevated stress hormones at bay. Research suggests that even one or two nights of sufficient sleep (experts recommend eight hours) can lower cortisol levels more than a number of other stress-management techniques combined. Granted, stress often interferes with sleep, but do your best to increase your chances of getting to sleep by avoiding caffeine after noon, establishing a regular bedtime and wake-up time, and doing something relaxing in the hour before bedtime (no TV!).



### EXERCISE REGULARLY

As we learned in Chapter 1, our stress response was designed with



physical activity in mind. If we outrun a saber-toothed tiger after our stress response is activated, the stress hormones in our bodies dissipate and return to normal levels rather quickly. The problem is that we don't respond to most psychological stressors (a bad day at the office, a traffic jam) with physical action. But maybe we should! Research shows that exercise can reduce elevated levels of stress hormones and help protect against the damaging effects of chronic cortisol exposure. It can even reduce an otherwise exaggerated response to a stressor; in one study, women who were physically fit exhibited less cortisol exposure in response to stress than their unfit counterparts. Exercise also increases the levels of "feel good" hormones such as dopamine and serotonin in the brain, further helping you to ward off anxiety and depression. Of course, over-exercising can reverse these benefits—wearing your body down with compulsive workouts only serves to increase cortisol levels, so aim for moderate workouts 3–4 days per week.



## EAT A NUTRITIOUS DIET

Diets that are high in beneficial nutrients can counteract the effects of stress. Aim for a balance of protein, carbohydrates, and fats, and make sure to include a bountiful selection of colorful vegetables. Though cortisol increases cravings for foods high in sugar, you should avoid simple carbs and instead choose complex carbohydrates such as whole-grain cereals and breads, which help to stabilize blood sugar levels. For those who eat fish, this is a good protein choice, since the Omega-3 fatty acids found in fish like salmon and tuna can prevent surges in stress hormones. Nuts like almonds and pista-







chios are also rich in nutrients that can buffer the effects of stress hormones. As stress often increases blood pressure, aim for foods high in potassium like avocados and bananas to keep blood pressure in check. For those who eat dairy, warm milk may have a soothing effect (just like your mom told you!). While it's important to choose nutritious foods, beware of letting diet become a source of stress in and of itself. Studies show that constant or extreme dieting can in fact set off the stress response and increase cortisol levels.

## AVOID STIMULANTS AND ALCOHOL

When we're feeling stressed and fatigued, many of us reach for a drink, whether it's a cocktail or a cup of coffee. But while alcohol may temporarily relax you and caffeine may temporarily boost energy and concentration, ultimately these two substances can exacerbate stress. Both act as diuretics, which dehydrate the body, and this physiological stress increases cortisol levels. Both can disrupt sleep, with alcohol often causing nighttime awakening and caffeine making it difficult to fall asleep. Alcohol in particular can interrupt the body's daily cortisol rhythm, while



caffeine can activate an already stimulated nervous system to the point of jittery anxiety.

While the caffeine in coffee and supplements like diet pills should be avoided, research suggests that the type of caffeine found in black tea can actually help you recover from stressful events more quickly.

In one study, those who drank four cups of tea daily for 6 weeks reported feeling calmer and had lower levels of cortisol after stressful situations than those who drank a tea-like placebo.

[www.webmd.com/diet/slideshow-diet-for-stress-management](http://www.webmd.com/diet/slideshow-diet-for-stress-management)



## LEAD A JOYFUL LIFE

It may seem cliché to “stop and smell the roses” more, but research demonstrates time and again that simple pleasures can decrease our stress considerably. Indulge in a relaxing hot bath—Japanese researchers found that among high-stress men, hot baths reduced cortisol levels. Go ahead and get away for that long weekend. One study showed that after a three-day, two-night weekend away, subjects had a decrease in cortisol and overall stress markers and a boost in immune system function. Spend time with your pets—“dog therapy” has proven to reduce cortisol levels. Simply petting a dog or a cat lowers the pulse, blood pressure, and breathing rate. Listen to your favorite (preferably relaxing) music. Music, especially after a stressful event, has been shown to increase the relaxation response; decrease heart rate, blood pressure, and cortisol levels; and increase immunity. Finally, don’t forget to laugh. Research shows that laughter improves mood after high levels of daily stress and even boosts immunity.



## DON'T LET STRESSORS CONTROL YOU

Not all stressors are created equal. The stress literature demonstrates that the degree of control we have (or think we have) over a stressor





impacts our response to it. For example, predictable stressors cause a less pronounced stress response than those that catch us completely off guard. One study with stressed rats showed that rats that believed they had control over getting an electric shock (a lever to delay the shock) had a lower incidence of stress-related diseases than rats who were offered no such perceived control. Applied to humans, if we can prepare for or moderate the stresses that come our way, we'll suffer less damaging effects of the stress response.

It's good practice, then, to learn to say "No" when we can. By not saying "Yes" to every request and invitation that comes our way, we can maintain a degree of control over the responsibilities and commitments on our plate. Saying "No" will also help you avoid multitasking, which can exacerbate stress because the more stimuli you take on, the more you stimulate your HPA axis and adrenal glands. Try to set, reasonable attainable goals so that unreachable expectations do not become a source of stress. Prepare for the predictable stressors in your path; for example, plan driving trips to avoid peak traffic times. The more control you can gain over life's many stressors, the less damage you'll be doing to your body.



## TRY ANTI-STRESS THERAPIES



Many age-old healing practices have been proven by modern research to effectively reduce the impact of stress on body and mind. In numerous studies, massage has been shown to reduce cortisol levels, blood pressure, and overall anxiety, and increase serotonin and immune system function. Yoga,



when practiced regularly, leads to reduction in cortisol levels, blood pressure, and feelings of anger and exhaustion. In one study, those



who practiced yoga reported better skill in coping with stress, elevated mood, and increased life and job satisfaction than counterparts who merely relaxed reading books. Meditation and visualization have also been shown to slow heart and breathing rates, decrease nervous system activity, and bring calm to the mind. Other reflective practices

to decrease cortisol levels include spirituality, prayer, and journaling.

It's clear that making even minor modifications in our lifestyles (a hot bath, our favorite music) can fortify us against the upheavals of the stress response. The importance of good diet, regular exercise, adequate sleep, and stress-management practices in limiting the stress response cannot be overstated. However, since our stress-filled modern lives often don't allow us the flexibility to cook three healthful meals a day, hit the gym several times a week, and schedule weekly massages, we may need a helping hand from nature in the form of vitamins and herbal supplements. While supplements cannot fully substitute for sensible lifestyle choices, they can safely and effectively keep cortisol levels in an optimal range, making them an integral partner in stress management. In the next chapter, you'll about safe and effective stress-relieving choices from nature's medicine chest.



## CHAPTER 4

# Vitamins, Minerals, & Herbs for Stress Relief

Since ancient times, practitioners in the Ayurvedic, Chinese, and Native American traditions have used healing herbs to help ward off stress and return the body to balance. Modern research has shown that certain herbs, as well as vitamins and minerals, can intervene in the stress response by keeping cortisol levels in check and/or restoring calm to the nervous system. During periods of high stress—especially when you’re strapped for enough time to incorporate the full range of beneficial stress-management practices—the supplements discussed in this chapter can provide valuable support and protection against the damaging effects of the stress response without the dangerous side effects of many prescription pharmaceuticals.



### SINGLE HERBS

#### Ashwagandha Root

Ashwagandha Root is described in ancient Ayurvedic medicinal texts as a “rasayna” or health-promoting tonic. The restorative root helps the body adapt to physical and mental stress. As a mild nervous system depressant and muscle relaxant, it has been traditionally used as

a tonic during times of stress and a treatment for insomnia. Studies indicate ashwagandha possesses anti-inflammatory, antistress, antioxidant, immunomodulatory, and rejuvenating properties. It also appears to exert a positive influence on the endocrine, cardiopulmonary, and central nervous systems.

### Astragalus Root

Astragalus Root, also known as “huang qi” or milk vetch root, has been used in traditional Chinese and East Indian medicine for thousands of years to strengthen and rejuvenate the body. Ongoing research has demonstrated both its immune-stimulating and anti-cancer properties. Astragalus appears to fortify the immune system by increasing the number of immune cells in the body and may thereby counteract the effects of cortisol. It stimulates the infection-fighting activity of macrophages and the production of interferon, a cellular protein that fights off invading organisms. As a result, it can boost your immunity against colds and flu as well as bacterial and fungal infections, especially during times of stress. Cancer patients may find particular benefits; studies suggest that the root can stimulate the immune systems of individuals with cancer, inhibit the growth of tumors, and lessen the side effects of chemotherapy and radiation.



### Black Cohosh Root

Black Cohosh Root is most commonly used as natural support for women during periods of nervous irritability, hot flashes, and other uncomfortable symptoms associated with menopause. However, it may have wider effectiveness as a tonic for stress. Native Americans healers have used black cohosh for centuries to calm the nervous system. The root may work like a mild sedative and can be used to treat headaches that are caused by depression, stress, or anxiety.



## Catnip Herb

While Catnip Herb drives cats crazy, it has exactly the opposite effect on humans. In fact, the aromatic herb is a traditional home remedy for quieting the nerves, helping the body unwind, and promoting restful sleep. This member of the mint family is also the preferred herb for humans who want to soothe a stress-related upset stomach, gas, nausea, and bloating. Sip this relaxing, minty brew after dinner or a heavy meal to encourage healthy digestion.



## Chamomile Flowers



Chamomile Flowers tea is a soothing beverage that has been taken to promote healthy digestion since at least the first century. Its calming effect makes it a salve for stress-related gas, indigestion, and acidity, as well as for peptic ulcers, Crohn's disease, and irritable bowel syndrome. Millions also enjoy the fragrant flowers for gently calming the nerves and soothing stress and tension.

## Hops

While Hops is popularly known as the herb that gives most beer brews their bitter-aromatic flavor, this calming botanical has also been used since antiquity for promoting relaxation and for relieving occasional sleeplessness and nervous tension. Hops is listed in all the major pharmacopoeias of the world for its historic soothing effects on the nerves. However, long before its addition to alcoholic brews, the Native American Cherokee tribe, the Chinese as well as Ayurvedic practitioners all used Hops as an herbal sleep aid and for restlessness associated with simple nervous tension. Today, various Hops preparations are recognized throughout Europe and other Western countries for their gentle calming ability.





## Kava Kava Root

Kava Kava Root, the “South Pacific Soother,” has been used in that region’s natural healing tradition for 3,000 years to calm and relax the mind. Today, many appreciate Kava for its ability to soothe stress and anxiety and to relieve the tensions of the day. This root from a pepper plant acts as a mild nervous system depressant without the “hangover” side effects of other depressants like alcohol. Research indicates that its natural compounds (kavalactones) relax the body and bring tranquility and peace of mind without the side effects of habit-forming drugs. It can safely be taken long term to relieve chronic stress. In European trials, Kava consumed over a period of 4 weeks successfully relieved anxiety and other emotional problems associated with stress.

## Lavender Flowers

A potpourri of Lavender Flowers slid under a pillow or an herbal infusion at bedtime have long been used to calm the nerves and ward off insomnia. According to the National Institutes of Health, there is good evidence to support Lavender aromatherapy as an effective treatment for anxiety, and preliminary evidence for its use to treat insomnia.



## Passion Flower

Originally used by the Aztecs of South America, Passion Flower has a longstanding place in the European pharmacopeia. One herbal expert suggests Passion Flower for people with internal chatter, like a radio going on in their heads when they’re trying to sleep.



Indeed, this trusted herb has been used for centuries to promote relaxation and relieve occasional sleeplessness. Despite its name, Passion Flower cools passions rather than excites them. In fact, herbalists praise it as one of nature's best botanical aids for promoting tranquility and exerting a quieting, soothing effect on the nervous system.

### Peppermint Leaves



For stress-related digestive disturbances, Peppermint is a potent herbal remedy. Peppermint's cooling and antispasmodic effects help relieve gas, flatulence, and bloating. Essential oils in peppermint increase the flow of digestive juices and bile and relax the gut muscles. The herb is used to soothe diarrhea, irritable bowel syndrome, and spastic colon, all of which can be set off by stress.

### Skullcap Herb

For anyone seeking an effective alternative for restlessness, tension, and occasional sleeplessness, Skullcap appears to be an outstanding choice. It especially nourishes and supports the nerves, providing unparalleled calm and relaxation. In fact, some of its primary nutrients include calcium and magnesium, minerals known to support nervous system health (read more in the Vitamins & Minerals section on page 31).

### St. John's Wort

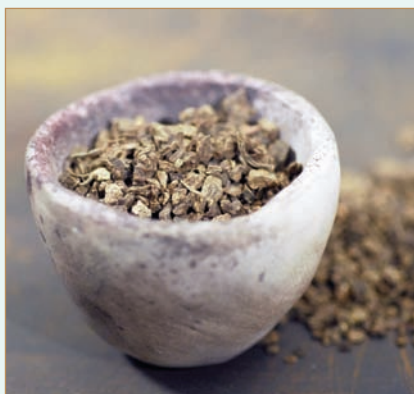
St. John's Wort might be called "nature's antidepressant." In numerous clinical studies, the herb has proven to be as effective for relieving mild to moderate depression as such antidepressant drugs as Prozac, Zoloft, and Paxil. It is thought to work by correcting neuro-



transmitter imbalances in the brain. Those who take St. John's Wort during times of stress report that it helps to restore energy, balance mood, and lift the spirits. St. John's Wort is currently the subject of numerous research studies, particularly in Europe, where it is recognized as a standard herbal aid for emotional wellness.

## Valerian Root

Valerian Root is a safe and gentle time-honored approach for occasional sleeplessness and stress. In fact, its calming properties were recorded over 2,000 years ago by the father of modern medicine himself—Hippocrates. Londoners used Valerian during the air raids of World War II to help them fall asleep. Current European



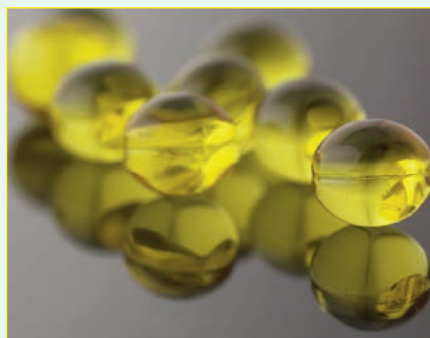
pharmacopoeias continue to cite Valerian's traditional applications. The soothing root relaxes and strengthens the nervous system to help you better cope with stress and calms the mind so you can sleep restfully. Its active compounds appear to work on the brain in a similar way as prescription tranquilizers such as Valium. In one study, compared to placebo, Valerian Root promoted a decrease in insomnia symptoms in insomnia patients over the course of 28 days. Research suggests that the root may also help improve the length and quality of sleep. It may reduce the amount of time required to fall asleep as well as promote relaxation and decrease tension.



## VITAMINS & MINERALS

### Antioxidants

Antioxidant vitamins are important vitamins for stress. Vitamins A and E, both antioxidants, protect the body against free radical damage. When the body is under stress, more free radicals are produced, so extra antioxidants can be of great value in stress relief management. Antioxidants also help to strengthen the immune system, which can be compromised during stressful times.



### B Complex Vitamins

Life's constant stress can rob the body of vital nutrients. B-complex vitamins are important in stress relief management because one of their primary roles in the body is to keep the nervous system functioning well. Deficiencies of B-vitamins are associated with nerve problems and an increase in stress-related symptoms such as depression, anxiety, and irritability. The B-complex vitamins work as a team, and supplements should include a balanced formula containing all of them. Vitamin B-1 (thiamin) helps turn carbohydrates into energy, so more is needed during periods of stress. When included in a mixture of B vitamins, vitamin B-5 (pantothenic acid) has been shown to control cortisol levels. Vitamin B-6 (pyridoxine) is involved in the synthesis of neurotransmitters in brain and nerve cells. It may lower blood pressure and counteract the adverse effects of elevated cortisol levels. In animal studies, rats supplemented with vitamin B-6 had fewer stress-induced ulcers than their non-supplemented counterparts.



## Vitamin C

Vitamin C plays a central role in regulating cortisol levels and fortifying the immune system during times of stress. Research shows that even a subclinical deficiency of vitamin C can lead to elevated cortisol levels and compromised immune function. Following a stressful event, vitamin C helps bring cortisol levels back into the normal range more quickly. The vitamin is important in the function of a variety of mechanisms to help protect the body from infection, including the manufacture of white blood cells, complement proteins, and interferons. When the body is exposed to toxins, vitamin C is often required for the body to begin processing the toxins for elimination. Weak immune function, including susceptibility to colds and other infections, can also be a telltale sign of vitamin C deficiency. Since the lining of our respiratory tract is heavily dependent on vitamin C for protection, respiratory infection and other lung-related conditions can also be symptomatic of vitamin C deficiency. An analysis of clinical trials showed that those taking Vitamin C regularly had a slight reduction in the duration and severity of cold symptoms. Among those who were exposed to extreme physical or cold stress (e.g. soldiers in subarctic conditions) and took vitamin C, there was a 50 percent reduction in the risk of getting a cold.



## Calcium & Magnesium

Calcium & magnesium are typically thought of as minerals primarily for bone health, but they also play an important role in buffering the body from the effects of stress. Low calcium intake is associated with elevated cortisol production within fat cells. In animal studies, rats placed on a low-calcium diet became agitated; when calcium levels were returned to normal,

the rats returned to normal behavior.

the animals became calm and relaxed once more. Because magnesium is an important coenzyme in nerve and muscle function, it can be depleted rapidly during periods of intensive stress. Research shows that supplementation with magnesium can lessen feelings of anxiety and overall stress.

## Zinc

Zinc is involved in altering adrenal metabolism and has been shown to reduce cortisol levels at optimal amounts. The essential mineral is also known to play an important role in the immune system, and zinc deficient individuals may experience increased susceptibility to a variety of pathogens, including the viruses that cause colds. Zinc's antioxidant effects are vital to the body's resistance to infection. The mineral may also decrease the ability of cold viruses to grow on or bind to the lining of the nose. There is some evidence that zinc nasal sprays or lozenges taken at the beginning of a cold may reduce severity and duration of cold symptoms, and doses of more than 70 mg per day have consistently reduced the duration of colds. However, zinc nasal sprays should be used with caution. Many users have experienced permanent loss of smell from them.



## Co-Q10

Coenzyme Q10 (Co-Q10), also called ubiquinone, naturally occurs in every cell in the human body, but its concentration decreases with age, disease, and/or stress. It is vital to the production of cellular energy and normal metabolic function. When the body lacks adequate levels of Co-Q10, it is not able to produce enough energy, which can lead to fatigue. Supplementation with Co-Q10 can bolster the body's energy reserves during periods of intensive stress.



## HERBAL BLENDS

The following herbal blends contain effective combinations of stress-fighting vitamins, minerals, and herbs, all in one convenient supplement package.

**Pressu Relieve™**, 60 Vcaps—500mg (Nature's Wonderland S23AX) A blend of calming herbs that helps you cope with the pressure of this hypertensive world. Pressu-Relieve contains Black Cohosh, which helps you relax and supports the nervous system so you can get a good night's sleep. It also contains Hawthorn Berries, which strengthen the cardiovascular system, and other herbs that support normal kidney function and flush away toxins that stress can create.

**Herbal Tranquil A Tea™**, 60 Vcaps—550mg (Nature's Wonderland S36X) From nature's pharmacy, here is a formula that's guaranteed to quiet your nerves—without narcotic side-effects. It contains Valerian Root, a soothing herb that has been used for centuries to promote restful sleep and calm frazzled nerves. It also includes Scullcap, a favorite among herbalists for relieving stress and occasional nervous tension. Black Cohosh Root and Passion Flower are added to provide gentle herbal support for relaxation and sleepless nights.

**Emotional Rescue™**, 60 Vcaps—575mg (Nature's Wonderland S62X) Get off the emotional roller coaster with this calming, balanced herbal blend. Emotional Rescue™ formula relaxes and promotes an elevated sense of well-being and inner contentment. It is also beneficial for calming the nervous system. Contains St. John's Wort, Black Cohosh Root, Gotu Kola, Kava Kava Root.

**Hormonal Regulator™**, 60 Vcaps—525mg (Nature's Wonderland S24X) The comforting herbal blend relieves irritability and mild mood changes associated with your menstrual cycle and restores a feeling of well-being.

**Anxiet-Ease Extract**, 1 fl oz / 30ml (Nature's Wonderland SK30) Anxiet-Ease helps you regain your emotional balance and creates

inner tranquility. This liquid calming blend is the fast-acting solution you need to help you cope with emotional and mental stress.

**Kava Gold Extract**, 1 fl oz / 30ml (Nature's Wonderland SK260) A premium Kava blend that is the gold standard for soothing mind and soul. It effectively calms stress, anxiety and nervous irritability—without grogginess. This superior formulation combines Kava with other powerful stress supporting botanicals.

**ZZZZZ Extract** (Sleep Blend), 1 fl oz / 30ml (Nature's Wonderland SK440) A gentle blend that supports restful sleep and eases mental stress. Contains soothing botanicals like Hops, Scullcap and Passion Flower. Calms the mind and helps you “turn off” the internal mental wheels that can leave you exhausted.



# Summary

**S**tress is perhaps the most universal experience of our hectic modern lifestyles. Some may claim to “thrive on stress,” but decades of research have confirmed that chronic stress causes the body to break down rather than thrive. Although a certain amount of appropriate stress can actually be beneficial, high amounts of stress can be detrimental, making you vulnerable to illness. Our bodies simply weren’t designed to withstand unrelenting stress, and the long-term damage of a continuously activated stress response may include diabetes and obesity, fatigue and insomnia, compromised immunity, cardiovascular disease, gastrointestinal distress, osteoporosis and arthritis, and anxiety/depression.

So what can we do to break the negative stress cycle? Although stress can overwhelm us at times, we can choose to take the steps necessary to live a balanced life. Radiant health and peace of mind (the opposite of stress) go hand-in-hand. Making choices that integrate and heal the body, mind, and spirit prove to be the best stress busters. On a physical level, make sure to get adequate sleep, exercise regularly, eat a nutritious diet, and avoid stimulants and alcohol in order to maintain the natural rhythms and optimal levels of your stress hormones. On an emotional level, aim to gain control over your most common stressors and take time for joyful indulgences, meditative practices, and spiritual nourishment.

As a partner in stress management, vitamins, minerals, and herbs offer a boost from nature for holding stress hormones in check; replenishing the body with nutrients that stress depletes; fortifying the immune system; and gently working to calm the nerves, bring quiet to the mind, and coax us into restful sleep. So turn off that BlackBerry and reach for some healing botanicals!



# Frequently Asked Questions

## **What are the most common causes of stress?**

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For our ancient ancestors, the primary source of stress was physical; they had to run from predators and compete for scarce resources. Today, our most common stressors are psychological in nature. Stress can be triggered by emotions, such as anger, fear, worry, grief, depression, or guilt. It can be the result of an injury or trauma, an accident or surgery. Everyday pressures, like family squabbles, impossible bosses, unfaithful spouses, unruly teens, or overdue bills cause stress. An extreme change in sleep patterns, diets, exercise, and even the climate you live in can also create stress. So can chronic illness, pain, allergies, and inflammation.

## **What is cortisol, and why should I be concerned about it?**

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Cortisol is a stress hormone released by the adrenal gland during the stress response. Its primary function is to increase the concentration of glucose (sugar) in the blood so our bodies can perform at optimum levels during “fight or flight.” Cortisol also signals the body to temporarily shut down nonessential body processes including growth and tissue repair so the body can use all of its energy reserves to protect itself from a threat. The problem is that during chronic stress, cortisol levels are consistently elevated and disrupt bodily functions on an ongoing basis. Higher than normal cortisol levels and “flat” cortisol rhythms have been linked with diabetes, insomnia, compromised immunity, cardiovascular disease, irritable bowel syndrome, osteoporosis, and depression.



### **What are the most important healthy habits I need to reduce stress and keep my cortisol levels within the normal range?**

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A good stress-management program incorporates at least eight hours of sleep per night; moderate exercise 3–4 times per week; and a diet rich in complex carbohydrates, colorful vegetables, good fats (like avocados and olive oil), and lean proteins. Avoid coffee, supplements with stimulants, alcohol, and any “extreme” diet plans. Research has demonstrated that simple lifestyle choices such as making time for hot baths, long weekends, your favorite music, and abundant laughter are important, too. Age-old healing practices like massage, meditation, and yoga can further augment stress relief. Supplement a nutritious diet with essential vitamins and minerals—especially C and B-complex vitamins, calcium, and magnesium—as well as time-tested herbs such as valerian, ashwagandha, and kava kava for promoting a sense of peace and restfulness and protecting the immune system.

### **Are herbal remedies safe and effective for treating stress-related health problems?**

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Scientific research has confirmed the effectiveness of many herbal remedies, such as the ones discussed in this booklet. They should be consumed as part of a healthy lifestyle that includes regular exercise and a sensible diet. Used sensibly and in moderation, herbal remedies can be a safe alternative to harsh chemical drugs that often have numerous, toxic side effects. However, some people may be allergic to some herbs just as they are with prescription drugs or foods, so caution is always advised. Make sure you purchase herbs, spices and vitamin supplements from a reliable source, since quality can vary greatly.

### **How soon will I see the results of using herbs, vitamins & minerals?**

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Herbs, vitamins, and minerals have a much gentler effect on the body than prescription drugs do. Results vary with each person and depend upon the health goal. For relieving pain, herbal remedies may act immediately. However, for chronic conditions such as inflammation or porous bones, results may take longer.

# Resources

## Websites

American Psychological Association: [www.apa.org](http://www.apa.org)

MedLine Plus—Stress Topic: [www.nlm.nih.gov/medlineplus/stress.html](http://www.nlm.nih.gov/medlineplus/stress.html)

National Center for Complementary and Alternative Medicine:  
[www.nccam.nih.gov](http://www.nccam.nih.gov)

National Institutes of Health Office of Dietary Supplements:  
[ods.od.nih.gov](http://ods.od.nih.gov)

Penn Herb Company, Ltd: [www.PennHerb.com](http://www.PennHerb.com)

The American Institute of Stress: [www.stress.org](http://www.stress.org)

WebMD Stress Management Health Center: [www.webmd.com/  
balance/stress-management/default.htm](http://www.webmd.com/balance/stress-management/default.htm)

## Reference Books

Kendall-Reed Penny ND and Stephen Reed MD. *The Complete Doctor's Stress Solution: Understanding, Treating, and Preventing Stress and Stress-Related Illnesses*. Toronto: Robert Rose, 2004.

Sapolsky, Robert. *Why Zebras Don't Get Ulcers: An Updated Guide to Stress, Stress Related Diseases, and Coping*. New York: Henry Holt and Company, 1998.

Talbott, Shawn Ph.D. *The Cortisol Connection: Why Stress Makes You Fat and Ruins Your Health—and What You Can Do About It*. Alameda: Hunter House, Inc., 2007.

Weinstein, Richard DC. *The Stress Effect: Discover the Connection Between Stress and Illness and Reclaim Your Health*. New York: Avery, 2004.

## Books by Susan Smith Jones

*Living Active & Pain Free: Natural Remedies for Strong Bones & Healthy Joints . . . at Any Age.* Health Point Press, 2010.

*Weight Loss: Make it Easy with Herbs.* Health Point Press, 2010.

*Culinary Herbs: Discover the Healing Secrets in Your Spice Rack.* Health Point Press, 2010.

*Herbs: Nature's Medicine Chest.* Health Point Press, 2010.

*The Joy Factor: 10 Sacred Practices for Radiant Health.* Red Wheel Weiser, 2010.

*Walking on Air: Your 30-Day, Inside and Out, Rejuvenation Makeover.* Red Wheel Weiser, 2011.

*Recipes for Health Bliss: Using NatureFoods & Lifestyle Choices to Rejuvenate Your Body & Life.* Hay House, 2009.

*Health Bliss: 50 Revitalizing NatureFoods & Lifestyles Choices to Promote Vibrant Health.* Hay House, 2008.

*Be Healthy ~ Stay Balanced: 21 Simple Choices to Create More Joy & Less Stress.* DeVorss & Company, 2008.

*The Healing Power of NatureFoods: 50 Revitalizing SuperFoods & Lifestyle Choices to Promote Vibrant Health.* Hay House, 2007.

*Vegetable Soup/The Fruit Bowl* with Dianne Warren. Oasis Publishing, 2009.

*For more information, please contact:*

**Penn Herb Co., Ltd.**  
**10601 Decatur Road**  
**Philadelphia, PA 19154**  
**(215) 632-6100**  
**[www.PennHerb.com](http://www.PennHerb.com)**

# Selected References

Kendall-Reed Penny ND and Stephen Reed MD. *The Complete Doctor's Stress Solution: Understanding, Treating, and Preventing Stress and Stress-Related Illnesses*. Toronto: Robert Rose, 2004.

Talbott, Shawn Ph.D. *The Cortisol Connection: Why Stress Makes You Fat and Ruins Your*

## SINGLE HERBS

### Ashwagandha Root

Lakshmi-Chandra Mishra, MD (Ayur), PhD, Betsy B. Singh, PhD, Simon Dagenais, BA Scientific Basis for the Therapeutic Use of *Withania somnifera* (Ashwagandha): A Review *Altern Med Rev* 2000;5(4) 334–346.

### Astragalus Root

Yoshia Y, Wang MQ, et al. Immunomodulating activity of Chinese medicinal herbs and *Oldenlandia diffusa* in particular. *Int J Immunopharmacol* 1997; 19:359–370.

Lau, GB, Ruckle HC, et al. Chinese medicinal herbs inhibit growth of murine renal cell carcinoma. *Cancer Biother* 1994;9:153–161.

Cha RJ, Seng DW, Chang QS. Non-surgical treatment of small cell lung cancer with chemo-radio-immunotherapy and traditional Chinese medicine. *Chung Hua Nei Ko Tsa Chih* 1994;33:462–466.

### Black Cohosh Root

“Black Cohosh.” National Institutes of Health, Office of Dietary Supplements. Updated 11/21/2008. <http://ods.od.nih.gov/factsheets/BlackCohosh-HealthProfessional>

### Chamomile Flowers

“Chamomile.” National Center for Complementary and Alternative Medicine. <http://nccam.nih.gov/health/chamomile/>

### Hops

“Hops (*Humulus lupulus*).” National Center for Complementary and Alternative Medicine. <http://nccam.nih.gov/grants/CAMNP/priorities/#Hops>



### **Kava Kava Root**

Pittler, M.H. and E. Ernst. "Efficacy of Kava Extract for Treating Anxiety: Systematic Review and Meta-Analysis." *Journal of Clinical Psychopharmacology*, February 2000, 20(1): 84–89.

### **Lavender Flowers**

"Lavender." MedLine Plus. [www.nlm.nih.gov/medlineplus/druginfo/natural/patient-lavender.html](http://www.nlm.nih.gov/medlineplus/druginfo/natural/patient-lavender.html)

### **Passion Flower**

"Passionflower." MedLine Plus. [www.nlm.nih.gov/medlineplus/druginfo/natural/871.html](http://www.nlm.nih.gov/medlineplus/druginfo/natural/871.html)

### **Peppermint Leaves**

"Peppermint Oil." National Center for Complementary and Alternative Medicine. <http://nccam.nih.gov/health/peppermintoil/index.htm>

### **St. John's Wort**

Gaster, B., and J. Holroyd. "St John's Wort for Depression: A Systematic Review." *Archives of Internal Medicine*, 24 January 2000, 160 (2): 152–156.

### **Valerian Root**

Vorbach EU, Gortelmeyer R, Bruning J: Treatment of insomnia: effectiveness and tolerance of a valerian extract [in German]. *Psychopharmakotherapie* 3: 109–115, 1996.

## **VITAMINS & MINERALS**

### **B-Complex Vitamins**

Manore, M. M. "Effect of Physical Activity on Thiamine, Riboflavin, and Vitamin B-6 Requirements." *American Journal of Clinical Nutrition*, August 2000, 72 (2, suppl.): S598–606.

### **Vitamin C**

Peters, E.M., et al. Vitamin C Supplementation Attenuates the Increases in Circulating Cortisol, Adrenaline and Anti-Inflammatory Polypeptides Following Ultramarathon Running. *Int J Sports Med* 2001; 22(7): 537–543.

Carr AC, Frei B. Toward a new recommended dietary allowance for vitamin C based on antioxidant and health effects in humans. *Am J Clin Nutr* 1999;69(6):1086–1107.

Hemilia H, Chalker E, Treacy B, et al. Vitamin C for preventing and treating the common cold. *Cochrane Database of Systematic Reviews*. 2007;(3):CD000980.

### **Magnesium**

S.W. Golf, S. Bender and J. Grüttner. *On the Significance of Magnesium in Extreme Physical Stress*. Cardiovascular Drugs and Therapy, Volume 12, Supplement 2, 197–202.

### **Zinc**

Caruso TJ, Prober CG, Gwaltney JM Fr. Treatment of naturally acquired common colds with zinc: a structured review. *Clinical Infectious Diseases*. 2007; 45:569–574.

## About the Author



For a woman with three of America's most ordinary names, Dr. Susan Smith Jones, PhD, has certainly made extraordinary contributions to the field of holistic health. A health educator for over 30 years at the University of California, Los Angeles (UCLA), with a doctorate in Health Sciences, Susan has established herself as one of the world's foremost experts on diet and nutrition, natural remedies, balanced living, and human potential while authoring over 27 books and 1,500 magazine articles on these topics.

Her latest bestselling titles include *Healthy, Happy & Radiant at Any Age*, *The Curative Kitchen*, *Living on the Lighter Side*, *The Joy Factor*, *Walking on Air*, *Be Healthy ~ Stay Balanced* and her 3-book healthy eating and living set, *The Healing Power of NatureFoods*, *Health Bliss*, and *Recipes for Health Bliss*.

Selected as one of 10 *Healthy American Fitness Leaders* by the President's Council on Physical Fitness & Sports, Susan teaches that the body is designed to be self-repairing and that the power to live a radiantly health life is within everyone's grasp. This is something she knows firsthand. Many years ago, when a devastating car accident

fractured Susan's back so badly that doctors told her she would never again be physically active and would live a life of chronic pain, she proved her doctors wrong. Her miraculous recovery convinced her that we all have within ourselves everything we need to live our lives to the fullest. She now regularly participates in a variety of fitness activities including hiking, weight training, in-line skating, biking, horseback riding, Pilates, and yoga.

Susan's diverse expertise has made her a sought-after culinary and lifestyle coach, retreat and workshop leader, media presence, and corporate consultant. She has been a guest on more than 2,000 radio and television talk shows in North America and worldwide, consulted with Fortune 500 companies to create healthier workplaces, designed recipes for the natural foods industry, and guided discerning clients the world over to live their best lives. When she is not crisscrossing the globe delivering her message of vibrant health, she can be found living out what she teaches at her home base in Brentwood, Los Angeles, from hiking at sunrise to preparing delicious meals loaded with organic, plant-based foods. She is also founder and president of Health Unlimited, a Los Angeles-based consulting firm dedicated to the advancement of peaceful, balanced living and health education. Her optimistic, joyful outlook has earned her the nickname "Sunny."

*For more information on Susan and her work, please visit:*  
**[www.SusanSmithJones.com](http://www.SusanSmithJones.com) · [www.SusansRemedies.com](http://www.SusansRemedies.com)**



# NATURAL STRESS SOLUTIONS

If you often feel like the demands of your daily life exceed your ability to meet them, you're definitely not alone. The state of feeling "stressed out" and "over-committed" is a growing phenomenon among millions of Americans. *Time* magazine singled out stress as an epidemic and statistics support that claim.

- Over one million North Americans are absent on any given workday due to stress and stress-related disorders
- 79% to 90% of all visits to primary health-care practitioners in North America are due to stress-related illnesses or complaints

Chronic stress has an impact on every aspect of our physical and mental well-being. Studies have shown that being under prolonged stress can lead to weight gain, fatigue, fluctuations in blood sugar, bone loss, compromised immune system, and anxiety/depression. Having continuously elevated levels of the stress hormone cortisol has been linked to the development of inflammatory diseases, insulin resistance, diabetes, obesity, and heart disease.

While de-stressing can be achieved through yoga and exercise, it can also be hastened by foods, herbs, spices, water and other lifestyle changes. The cornucopia of stress-busting suggestions discussed in this booklet can help keep cortisol levels in an optimal range, even when one is experiencing stress.

**Susan Smith Jones, PhD**, has made extraordinary contributions in the fields of optimum health, natural remedies and human potential. Selected as one of ten "Healthy American Fitness Leaders" by the President's Council on Physical Fitness & Sports, she is author of over 25 books and 1,500 magazine articles. For 30 years, Susan taught students, staff and faculty at UCLA how to be healthy and fit. As the founder and president of Health Unlimited, a Los Angeles-based consulting firm dedicated to the advancement of peaceful, balanced living, she travels worldwide as an in-demand consultant, motivational speaker and frequent guest on radio and TV talk shows. And, as an esteemed natural foods chef, culinary instructor, and holistic lifestyle coach for more than 25 years, Susan has helped thousands of people enhance their physical, mental and spiritual well-being.

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