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Adaptogenic Herbs: Nature's Solution To Stress

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By Edward C. Wallace, N.D., D.C.

Impatience, anxiety, irritability. Maybe you've seen the effects of stress in your customers' behavior, or maybe they've come to you looking for suggestions on how to calm their nerves and reduce the impacts of stress on their bodies, minds and souls.

The American Academy of Family Physicians in Kansas City, Mo., estimates that approximately two-thirds of all office visits are for stress-related complaints. Yet stress itself is not an illness; it is simply a fact of life--and always has been. The stressors have changed over the years, but human physiology has remained the same.

Humans once were regularly at risk of being attacked by wild animals or hostile people. Our bodies still respond to threats by secreting hormones that change our physiology and thus enhance our ability to run away or defend ourselves. This response, termed "fight or flight," includes intense stimulation of the sympathetic nervous system and the adrenal glands resulting in increased respiration rates and higher blood pressure and blood sugar levels as well as increased heart rate and force of contractions. At the same time, there is a decrease in

digestive secretions. In cases of acute stress, the situation is often resolved quickly, and normal physiology returns. If stress is prolonged or chronic, however, the body's calls to action become detrimental.

The body expends a great amount of energy keeping itself in a heightened state of readiness. When weakened by prolonged stress--be it caused by lack of sleep, poor diet, chemical toxins in the environment or mental assaults--the body's ability to maintain homeostasis can be compromised, and illness can result. Adaptogenic herbs have traditionally helped prevent the imbalances that can result from stress and have therefore prevented or minimized disease.

Attuning With Herbs

An adaptogenic substance is one that demonstrates a nonspecific enhancement of the body's ability to resist a stressor. The term was first introduced in 1947 by Russian scientist N.V. Lazarev to describe the unique action of a material claimed to increase nonspecific resistance of an organism to an adverse influence. In 1958, I.I. Brekhman, a Russian holistic medical doctor, and his colleague I.V. Dardymov, established the following definition of an adaptogen: It "must be innocuous and cause minimal disorders in the physiological functions of an organism, it must have a nonspecific action, and it usually has a normalizing action irrespective of the direction of the pathological state." [1]

As it turns out, many herbs have exactly these properties. In keeping with the definition, modern herbalists say adaptogenic herbs are plants with properties that exert a normalizing influence on the body, neither over-stimulating nor inhibiting normal body function, but rather exerting a generalized tonifying effect.

At the core of an adaptogen's scope of actions is the ability to help the body cope more effectively with stress. Specifically, adaptogens recharge the adrenal glands, which are the body's nominal mechanism for responding to stress and emotional changes. The adrenals, which cover the upper surface of each kidney, synthesize and store dopamine, norepinephrine and epinephrine. These compounds are responsible for the changes that occur during the fight-or-flight reaction. The question is, if adaptogens normalize the body and enable energy to be used more productively when stressors are not physical threats, can they be used to enhance general health and performance? Several studies indicate they can.

The Great Equalizers

The list of plants with adaptogenic properties is long largely

Herbal Coping
Adaptogens can help people handle stress by providing:
 Antioxidant activity

because of the term's broad definition. Topping the list is red ginseng from Asia (called either Chinese, Korean, or Japanese ginseng), considered the "gold standard" of adaptogenic herbs. Other commonly accepted adaptogenic herbs include the white American ginseng, Siberian ginseng, suma, ashwaganda, astragalus, licorice, schisandra and jiaogulan. The mushrooms reishi, shiitake and maitake are also considered to have adaptogenic properties.

* **Asian ginseng** (*Panax ginseng*) is considered a chi tonic--more specifically a tonic for the yang chi--in traditional Chinese medicine. This ginseng is usually given to people who display yang deficiency--weakness in muscles, voice and constitution, for example--and is generally best avoided by those who are well muscled and large with a tendency to bursts of anger. Numerous studies support Asian ginseng's effectiveness at improving a person's ability to withstand stress, improve work performance and quality, and enhance mental function. [**2**] It has also been shown to increase the release of adrenocorticotrophic hormone (ACTH), which stimulates an increase in adrenal hormone secretion. It also can counteract the shrinkage of the adrenal gland caused by corticosteroid drugs. [**3**]

In a recent in vitro study, researchers from the department of pathology at Okayama University Medical School in Japan found that Asian ginseng extract inhibited hydroxyl radical formation. The authors believe this antioxidant effect may be responsible for ginseng's wide range of pharmacological applications. [**4**] In a double-blind controlled study, 36 noninsulin-dependent diabetic patients were treated with Asian ginseng for eight weeks. Patients were given either 100 mg or 200 mg of Asian ginseng or placebo. The ginseng elevated participants' moods, improved physical activity and performance, improved glycosylated hemoglobin, and reduced fasting blood sugars and body weight. [**5**]

A classic adaptogen, Asian ginseng has been shown to increase RNA and protein content in the muscle and liver tissue of laboratory animals. [**6**] That same process may be the biochemical mechanism that makes ginseng such a highly regarded tonic. Asian ginseng is said to tonify the chi and the lungs while strengthening the spleen and stomach and calming the spirit. Studies show this ginseng to be antidepressant, antidiabetic and antihypertensive. [**7, 8**]

Evaluating the effect of Asian ginseng in various forms--cooked, dried and fresh root--in 1,987 cancer cases, researchers found that the risk of developing certain cancers in a population that used ginseng for at least one

Liver protection and antitoxin activity
Improved blood-sugar metabolism
Less craving for alcohol or sugar
Improved immune resistance
Increased energy and stamina
Improved muscle tone
Increased strength

Faster recovery
Better focus and concentration
Less anxiety
Better sleep
Better motivation and productivity
A feeling of well-being
Better moods

year was less than the risk for the general population. The risk continued to decrease with use up to 20 years. In the study, ginseng was found to protect against cancers of the mouth, esophagus, stomach, colorectum, liver, lung, pancreas and ovaries. Thus, the authors conclude that ginseng has a protective effect in most cases of cancer. [9]

* **American ginseng** (*Panax quinquefolius*), although in the same genus as Asian ginseng, is considered a yin tonic rather than a yang tonic. As such, American ginseng is indicated for a hotter, more aggressive constitution. It contains many of the same ginsenosides as the Asian ginsengs and has similar effects on the body.

* **Siberian ginseng** (*Eleutherococcus senticosus*), as can be seen by its Latin name, is not actually a ginseng, but it has been called one because of its similar properties. It is found in Russia, Asia, northern China, Japan and Korea and, in fact, Russian researchers consider it to be even more effective than Asian ginseng.

Stress-Induced Health Problems

Stress can influence reproductive function, the immune system and the brain. The following conditions are commonly linked to stress:

Angina
Asthma
Auto-immune diseases
Cancer
Cardiovascular disease syndrome
Common cold
Depression
Diabetes (adult onset, type II)
Headaches
Hypertension
Immune suppression
Irritable bowel disease
Menstrual irregularities
Premenstrual tension
Rheumatoid arthritis
Ulcerative colitis
Ulcers

Like Asian and American ginseng, Siberian ginseng has been shown to normalize reactions to physical and mental stress with great effectiveness when used for several months. In evaluating the adaptogenic properties of Siberian ginseng, a large study reviewed the results of a number of clinical trials involving 2,100 healthy men and women ages 19 to 72. Subjects were given doses of ginseng ranging from 2 to 16 ml of fluid extract, 33 percent ethanol, from one to three times daily for up to 60 days. Subjects had increased mental alertness and work output, enhanced athletic performance and improved work quality. They also exhibited an improved ability to withstand adverse conditions such as heat, noise, increases in workload and physical exertion. [10]

* **Suma** (*Pfaffia paniculata*) is a relatively new addition to Western herbal medicine. Influenced by the popularity of ginseng, people often refer to suma as Brazilian ginseng. Preliminary chemical analysis indicates suma contains vitamins A, E, B1 and B2; 19 amino acids including lysine, histidine, arginine and glycine; and small amounts of calcium, iron, potassium and sodium.

Source: Selye, H. Stress in Health and Disease

Japanese researcher T. Takemoto of Tokushima Bunri University

reports that suma can be beneficial in treating cases of bronchitis, high cholesterol, anemia, diabetes, fatigue and stress. [**11**] Marcus Laux, N.D., says suma can increase resistance to stress and also possesses analgesic and anti-inflammatory properties that may help alleviate pain. [**12**] Suma has been shown to accelerate wound healing, reduce tumor growth, and regulate blood sugar levels, blood pressure, cholesterol and hormones, according to Laux.

* **Ashwaganda** (*Withania somnifera*) is often called Indian ginseng, seemingly to group it with the ginsengs because of its similar actions. Though unrelated to other ginsengs, it appears to share their many properties and actions. Considered a tonic, an alterative, an astringent, a nervine and a sedative, [**13**] ashwaganda has been used in Ayurvedic medicine for more than 2,500 years. Recent studies show ashwaganda to be immunomodulating and to aid in cases of anxiety and other psychological complaints. [**14-16**]

* **Astragalus** (*Astragalus spp.*) is one of the more famous tonic herbs from China. In traditional Chinese medicine it is said to tonify the blood and spleen and aid the defensive chi. Thus, astragalus is often added to formulations used to treat weak patients. Similarly, it is used in combination with other herbs to enhance recovery following an illness or prolonged stress and to boost vitality. Astragalus is said to protect and enhance the functioning of distressed organs. [**17**] Numerous studies show the herb enhances immune function by increasing natural killer cell activity, [**18**] increasing T cell activity, [**19**] and enhancing macrophage activity [**20**] in immune-compromised patients.

* **Licorice root** (*Glycyrrhiza glabra* and *G. uralensis*), another popular herb in China, is said to tonify the spleen and strengthen chi. Licorice is perhaps the only herb claimed to benefit all 12 meridians in Chinese medicine. Rich in both saponins and flavonoids, it is anti-inflammatory because the saponins have a structure similar to that of corticosteroids. Licorice root also promotes or enhances immune system functioning and has a stimulating effect on the adrenal cortex. [**21,22**] Additionally, licorice can inhibit the breakdown of adrenal hormone by the liver, thereby increasing corticosteroid levels in circulation while inhibiting cortisol's ability to promote thymus atrophy. [**23**]

Melvyn Werbach, M.D., and Michael Murray, N.D., in their book *Botanical Influences on Illness* (Third Line Press, 1994), say components of licorice exhibit numerous pharmacological actions, including estrogenic activity [**24**] and aldosteronelike action. [**25**] Werbach and Murray also say licorice is an anti-inflammatory [**26**] with cortisollike action [**27**] as well as an antiallergic, [**28**] an antihepatotoxic [**29**] and an antineoplastic. [**30**] Lastly, it has the ability to heal peptic ulcers. [**31**] Several studies show glycyrrhizin, a constituent of licorice root and the major component of the previously mentioned saponins, has immune-enhancing properties and is potentially beneficial for HIV patients. [**32-34**]

One note of caution: Because of its aldosteronelike effect, licorice root may cause sodium retention and thus contribute to high blood pressure in some people.

* **Schisandra** (*Schisandra chinensis*, also called wuweizi by the Chinese) is commonly used as a general tonic and to promote liver health. In addition, it can be used as an adaptogenic tonic to counter the effects of stress and fatigue. Scientific studies show it has normalizing effects in cases of insomnia and neurasthenia, and improves mental coordination and physical endurance. [35] Research suggests schisandra may actually influence electrical discharges in the brain. [36]

* **Jiaogulan** (*Gynostemma pentaphyllum*), a member of the gourd family that grows in southern China, Korea, Japan and India, is also relatively new to the list of adaptogens. According to recent studies, jiaogulan contains nearly four times as many saponins as *Panax ginseng* does. [37] These saponins, known as gypenosides, are similar to the ginsenosides and panaxosides found in Asian ginseng. Preliminary studies also suggest jiaogulan may have even more powerful regulatory effects on a number of body systems than does Asian ginseng. In addition, jiaogulan has demonstrated antibacterial and anti-inflammatory activity and a beneficial effect on blood pressure regulation; it also has been shown to bolster the immune system, improve fat metabolism, moderate cholesterol levels, and enhance strength and physical endurance. [38]

* **Reishi** (*Ganoderma lucidum*), **shiitake** (*Lentinus edodes*) and **maitake** (*Grifola frondosa*) mushrooms may not be adaptogens in the classic sense, but each has adaptogenic, antitumor and immune-potentiating properties. [39] Reishi and shiitake traditionally have been used as tonics, while reishi has been called the elixir of immortality.

These traditional herbs, many established by hundreds or thousands of years of use, are now beginning to prove themselves under modern medical scrutiny. Studies show their many and far-reaching health benefits. Despite these herbs' normalizing qualities, it is best to urge customers to consult a medical professional before using adaptogenic products.

Even though modern stresses differ from those of the past, the body's reactions remain the same. Adaptogens may hold the key to living well in the next century. **NSN**

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