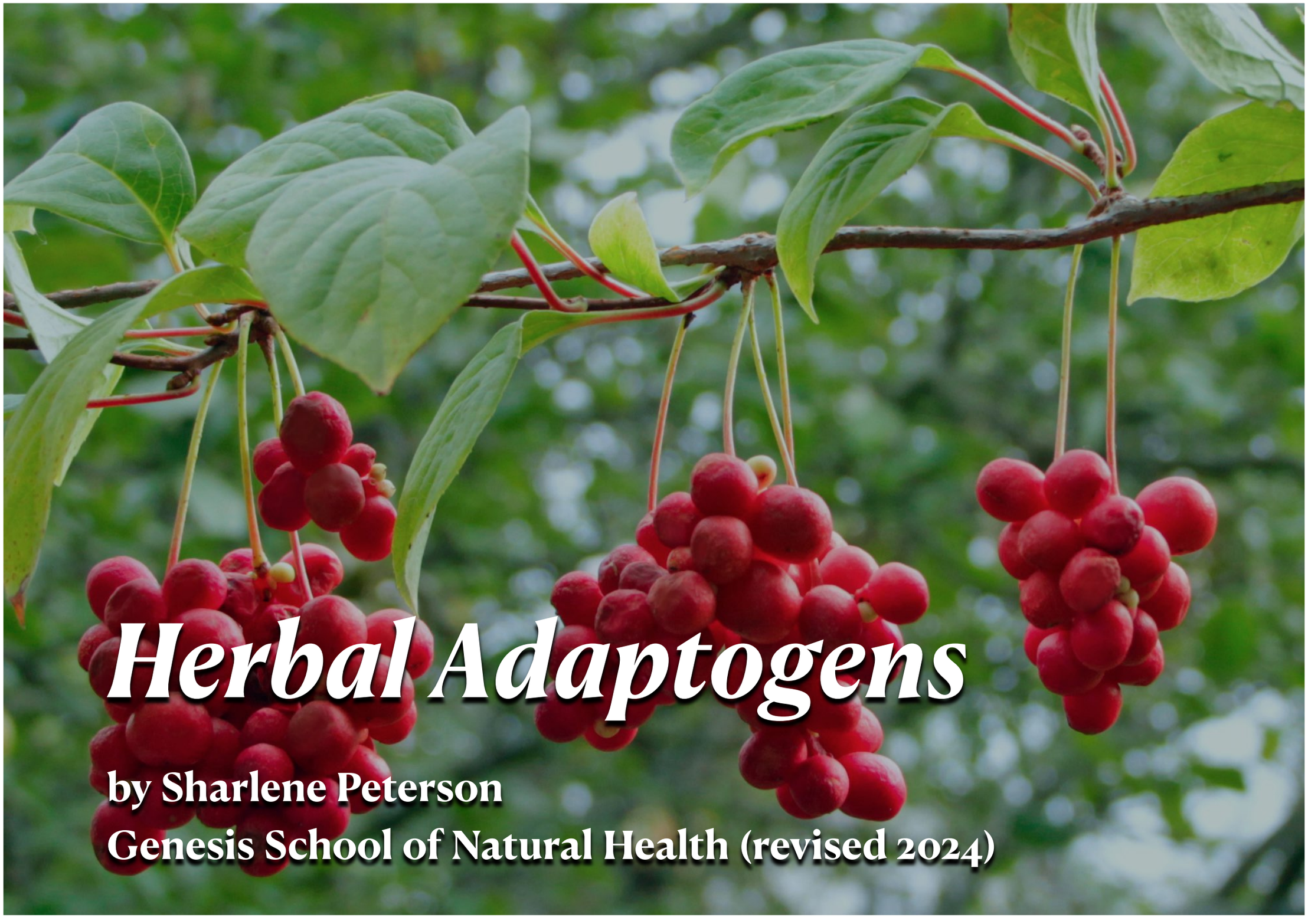

Herbal Adaptogens

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Genesis School of Natural Health (revised 2024)

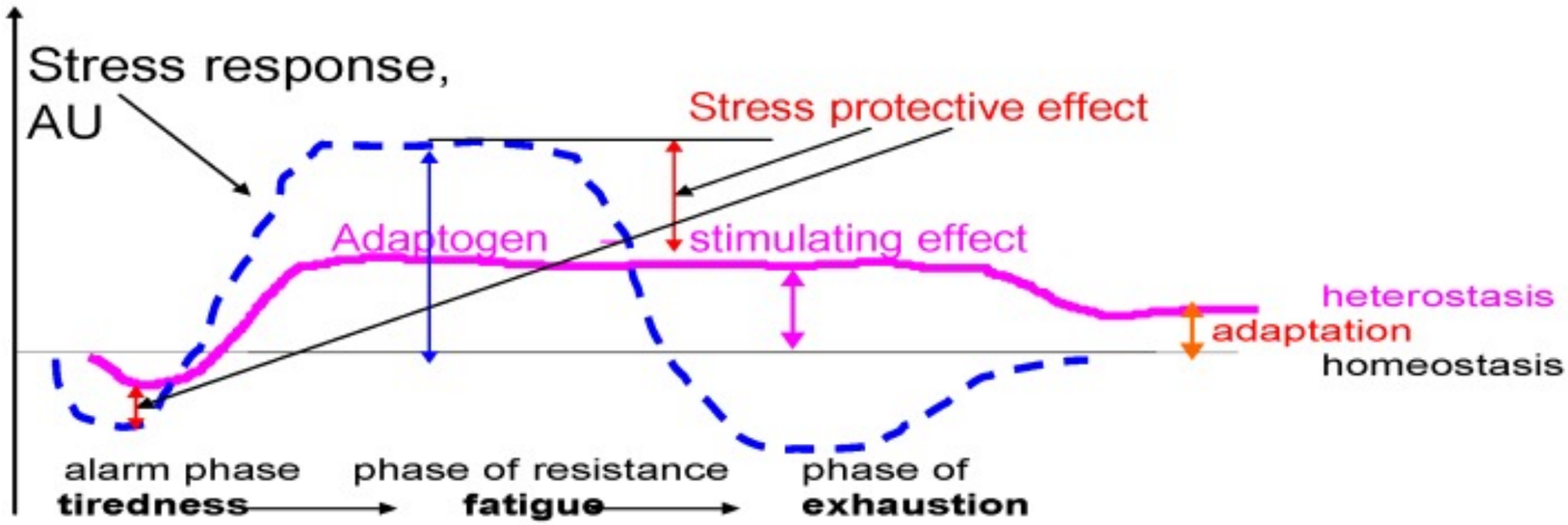
Defining True Adaptogens

Adaptogens help the human body adapt to stress, support normal metabolic processes, and restore balance which provides and overall feeling of wellness and vitality. Another way of saying this is that adaptogens increase the body's resistance to physical, biological, emotional, and environmental stressors and promote normal physiologic function through endocrine, neuroendocrine, and immune modulation. Adaptogens support the entire neuroendocrine system which includes the hypothalamic-pituitary-adrenal (HPA) axis and sympathetic-adrenomedullary system (SAS). The HPA axis has a direct influence on the immune system therefore, all adaptogens help modulate and/or enhance the immune system.

Adaptogens also help prevent cortisol-induced mitochondrial dysfunction and help regulate cellular energy use by improving the function of the neuroendocrine system. They enhance cellular energy transfer, which can make the body utilize oxygen, glucose, lipids, and proteins more effectively.

All adaptogens contain antioxidants and other phytochemicals that are beneficial for the prevention of disease, provide support during acute infections and chronic diseases (cancer, autoimmune conditions, etc.), and protection from toxins (chemo, radiation, environmental toxins, and internal toxins). The phytochemicals of adaptogenic herbs have beneficial effects throughout the body and, like tonic herbs, are non-toxic and may be used daily.

"To be considered a tonic in Chinese medicine, an herb must meet the following criteria: Aid in the attainment of a long life; Have broad and profound health-promoting actions; Have no negative side effects when used reasonably and therefore can be taken continuously over a long period of time if desired, yielding cumulative, long-term benefits; Help balance emotional and physical energy; Taste good enough to be consumed easily and be easily digestible. Unfortunately, in Western literature the terms tonic and adaptogen have become intermingled and confused. As such, many tonic herbs (such as astragalus, jujube date, amla, and dang gui) that do not fit the definition of an adaptogen have been called adaptogens, due to ignorance or marketing hype. **All adaptogens have tonic effects, but not all tonics are adaptogens.**" Winston, David. *Adaptogens: Herbs for Strength, Stamina, and Stress Relief* (pp. 72-73). Inner Traditions/Bear & Company. Kindle Edition.



“Adaptogens increase the state of non-specific resistance in stress and decrease sensitivity to stressors, which results in stress protection, and prolong the phase of resistance (stimulatory effect). Instead of exhaustion, a higher level of equilibrium (the homeostasis) is attained the heterostasis. The higher it is, the better the adaptation to stress. Thus, the stimulating and anti-fatigue effect of adaptogens has been documented in both in animals and in humans.”

Panossian, Alexander, and Georg Wikman. “Effects of Adaptogens on the Central Nervous System and the Molecular Mechanisms Associated with Their Stress-Protective Activity.” *Pharmaceuticals (Basel, Switzerland)* vol. 3,1 188-224. 19 Jan. 2010, doi:10.3390/ph3010188

HPA-AXIS

The HPA axis, the interactions between the hypothalamus, pituitary gland, and adrenal glands, is a neuroendocrine system that regulates digestion, the immune system, energy storage and expenditure, and influences our mood and emotions.

HPA-axis dysfunction increases the risk of depression, anxiety, digestive and sleep problems, headaches, weight gain or loss, and heart disease. Fatigue, muscular weakness, excessive free radicals, mitochondrial dysfunction and increased levels of pro-inflammatory cytokines are also associated with HPA-axis dysfunction.

Both chronic emotional stress and chronic infection(s) result in the ongoing release of cortisol and other steroidal glucocorticoids. Prolonged exposure to glucocorticoids can disrupt the interactions between the hypothalamus, pituitary gland, and adrenal glands (HPA axis). Excessive stress may result from a single strong stimulating event or by the accumulation of repeated stressors.

Good/Positive Stress

Good stress is positive stress, it is what we feel when we feel excited. Positive stress includes activities like attending an event or going on a date, riding on a rollercoaster, accepting a fun challenge, working on a project that you enjoy, writing down your goals, and exercising.

During positive stress our pulse increases and our hormones may surge a bit but, there are no feelings of threat or fear. Positive stress keeps us feeling happy, healthy, alive, and excited about life. Without “stress” we would feel bored, lack vitality, and feel generally ill.

When an event is perceived as a threat we respond to it differently than if it is seen as a challenge. Threats elicit a stronger stress response and create greater levels of anxiety while challenges range from enjoyable to exciting. Threats induce fear while challenges are opportunities to prove to ourselves how much we are capable of accomplishing. Good stress can become “bad” chronic stress if it is experienced in excess (adrenaline junkies).

Acute/Bad Stress

Acute stress is known as “bad stress” but, it is limited and comes from quick surprises that need a response. Acute stress is known as the “fight or flight” response. It triggers a surge of neurotransmitters from the nervous system and stress hormones from the endocrine system (especially the adrenals).

Have you experienced your car sliding instead of stopping at an icy intersection? The hypothalamus, located at the base of your brain, sets off an alarm system in body that alerts the adrenal glands of the danger. The adrenals release adrenaline which increases your heart rate, blood pressure, and energy rich molecules. The adrenals also release the primary stress hormone, cortisol. Cortisol increases blood glucose levels and enhances the brain’s ability to use glucose. It also slows the functions that are nonessential (digestion, immune system, reproductive system, etc.) during the emergency or perceived threat. Once the danger has passed your hormone levels of adrenaline and cortisol drop, your heart rate and blood pressure return to normal, and other systems resume their normal functions.

Chronic/Bad Stress

Chronic stress is a state of disharmony that occurs when we repeatedly face stressors that interfere with our quality of life. Examples of chronic/bad stress include ongoing financial worries, an unhappy home life, feeling as though you are under constant judgement, having a stressful job (not perceived as just a challenge). Children are not immune to chronic stress! Being rushed, feeling anxious about fitting in with a group, divorce/custody arrangements, or disharmony in the home are chronic stressors for children. Because our bodies are not designed for chronic stress it often leads to system-wide dysfunction and illness as well as anxiety and depressive states.

During an acute infection (physical stress) our appetite is reduced and energy-rich molecules are released to supply the demands of the immune system. Energy-rich molecules include glucose, free fatty acids, amino acids, calcium, phosphorus, and other substances. If an acute infection becomes a chronic disorder, the energy release continues and may result in insulin resistance, low androgen levels, low vitamin levels, increased cortisol levels, and increased activity of the sympathetic nervous system. **A chronic infection produces almost the same hormone reaction as chronic stress.**

Immune System: Chronic Stress

- Natural killer (NK) cells are lymphocytes of the innate immune system. They are best known for their ability to recognize and kill tumor cells and cells infected with viruses. NK cells also control microbial infections by limiting their spread and subsequent tissue damage.

- Allostatic load refers to the cumulative burden of chronic stress and life events. When challenges exceed the individual ability to cope, then allostatic overload occurs.

“When stress becomes chronic, then the immune system begins to be impaired. Cortisol from the adrenal glands adversely affects the immune system, decreasing the number of white blood cells. Accumulated or compounded stress over time can lead to a state of allostatic overload in which serious problems can result. Any type of significant stress can have a detrimental effect on the ability to maintain optimal NK-cell activity. A severely stressful event can be associated with up to a 50 percent reduction of NK-cell function. Chronic stress preceding an acutely stressful event also significantly impacts NK-cell activity”. - Winston, David. *Adaptogens: Herbs for Strength, Stamina, and Stress Relief* (p. 83). Inner Traditions/Bear & Company. Kindle Edition.

Symptoms of Chronic Stress

Chronic stress is associated with many symptoms. Seemingly opposite symptoms may occur depending upon a person's lifestyle, health challenges, emotional support, and duration of the stress.

- Fatigue and/or depressive feelings
- Anxiousness and/or restlessness
- Metabolic issues: elevated sugar levels and cortisol, increased abdominal fat, Type II diabetes, etc.
- Decreased detoxification (food allergies, chemical sensitivities, heightened seasonal allergies)
- Constipation and/or diarrhea, gas and bloating, irritable bowels
- Decreased immune function
- Bruise easily, wounds heal slowly
- Increased inflammation and muscle and joint pain
- High blood pressure, triglycerides, and/or cholesterol
- Premature aging, free-radical damage (oxidative damage)

Notice how the symptoms induced by chronic stress are the same symptoms that are targeted/modified/balanced by true adaptogens?

Seven True Adaptogens

1. American Ginseng *(Panax quinquefolius*)
2. Ashwagandha (*Withania somnifera*)
3. Asian/Korean Ginseng (*Panax ginseng*) (also called Red ginseng and its Chinese name is ren shen)
4. *Cordyceps militaris* (mushroom)
5. Eleuthero (*Eleutherococcus senticosus*)
6. *Rhodiola rosea*
7. *Schisandra chinensis*

Choosing Adaptogens

David Winston (interview: https://nuherbs.com/resources/understanding-adaptogens-with-david-winston)

When choosing an adaptogen it is important to to look at the person rather than the symptoms, disease, or disorder. “Some adaptogens are heating and others are cooling. We have adaptogens that are stimulating while others are calming. We have adaptogens that are moistening or drying”.

Example: “Rhodiola is a stimulating adaptogen. In fact, red ginseng and Rhodiola are the two most stimulating adaptogens, but they're very different. Red ginseng is deeply nourishing, and so that balances out the stimulating effect, because it's also deeply nourishing to the body. But Rhodiola is not nourishing at all. It's just stimulating.

If you have a patient, and they are the kind of person who tells you if they have even a cup of tea after lunch, or they eat a little square of chocolate, they're so stimulated they can't sleep at night. Don't give Rhodiola to that person. They'll be up all night. Rhodiola is also incredibly drying, so if you have anybody with dry skin, dry eyes, vaginal dryness, lack of synovial fluid in the joints, dry cough, furred tongue ... If you have patterns like that, Rhodiola is really inappropriate for that person.”

I would add: Rhodiola is not appropriate for those who are exhausted from chronic stress and yet have anxiety or are “jumpy” from the overuse of caffeine and other stimulants. The body has already been pushed hard from stimulants and it is time to gently and calmly rebuild. Exhausted but still unable to shutoff thinking to sleep.

American Ginseng (*Panax quinquefolius*)

Taste/Energy: Sweet, bitter, slightly warm, moist
Parts Used: Root
Major Constituents: Triterpene saponins (ginsenosides/panaxosides) and sesquiterpene (responsible for the bitter taste)

Dosage
Tincture (1:5): 3-5 mL (60-100 drops), three times per day
Capsule: Two 500 mg capsules, twice per day

American ginseng is an adaptogen, antioxidant, mild bitter tonic, **mild central nervous system stimulant**, mild demulcent (soothes mucous membranes), and immune balancing. Best used for mild to moderate HPA-axis dysfunction in the middle-aged population (40-60 years old) who are starting to experience a decrease in restful sleep, energy, strength, or endurance. Also benefits those with autoimmune disease with dryness, allergies, allergic asthma, insomnia with chronic fatigue, stressed nervous system, and type 2 diabetes.

Historically use: Natives have used *Panax* for fatigue, shortness of breath, coughing, headaches, fever, asthma, lack of appetite, arthritis, digestive issues or vomiting, general weakness, and as a mild stimulant. The Chinese import American ginseng and use it for yin deficiency of the lungs (dry coughs, coughs with blood, asthma with wheezing), dry mouth, and gastritis.

Ashwagandha (*Withania somnifera*)

Taste/Energy: Bitter, warm, dry
Parts Used: Root
Major Constituents: Steroidal lactones (withanolides, sitoindosides) and alkaloids (somniferine, withanine, and anaferine)
*Nightshade family *Contains iron *Avoid if you have hyperthyroid *Not for use during pregnancy

Dosage

Tincture (1:5): 2-4 mL (40-80 drops), three times per day
Capsule: One 500 mg capsule, twice per day

Ashwagandha is a **calming adaptogen**, enhances endocrine function, antioxidant, anti-inflammatory, antispasmodic, antitumor, diuretic, nervine, **thyroid stimulant** (for mild cases of hypothyroidism), and immune balancing. It is a very effective nervine and useful for nervous exhaustion, anxiety, stress-induced insomnia and fatigue.

Ayurvedic: Considered a rasayana and used for stimulating the mind, general weakness, enhancing vigor, improving sex for both men and women, and recuperating from illness. Used in India for malnutrition, coughs, edema, impaired cognitive function, rheumatism, low back pain, and various diseases and fevers.

Asian/Korean Ginseng (*Panax ginseng)*

Taste/Energy: Sweet, bitter, warm, moist
Parts Used: Root
Major Constituents: Triterpenoid saponins (ginsenosides/panaxosides) and panaxanes

Dosage
Tincture (1:5): 1-2 mL (20-40 drops), up to three times per day
Capsule: Two 400-500 mg capsules of powdered herb, 2-3 times per day
*Those who have anxiety, insomnia, or hypertension need to be mindful of the dosage - they should not use large quantities or drink coffee while using red Asian ginseng.

The **red** Asian ginseng is considered the **most stimulating of all adaptogens** and is especially suited for the elderly who feel cold/poor circulation, are exhausted and lack vitality. Asian ginseng has the ability to strengthen immune function for those with cancer, low white blood cell counts, chronic Lyme disease, autoimmune disorders, excessive allergy responses and allergic asthma. Adrenal exhaustion (dark under the eye circles, quivering tongue, etc.) also responds well to Asian ginseng.

Orient: Considered a kingly, tonic remedy that supported the five yin organs and calmed the mind. It was used to open the heart, strengthen the mind, and prolong life. Also used for malaria, hysteria, dry coughs, asthma or shortness of breath, diabetes, dizziness, cold extremities, and general weakness and exhaustion.

Cordyceps militaris / Ophiocordyceps sinensis

Taste/Energy: Sweet, slightly acrid, warm, moist
Parts Used: Mushroom (fruiting body), mycelial extract
Major Constituents: Immunostimulating polysaccarides (galactomannans, cordycepic acid), amino acids, fatty acids, polyamines, and ecdysterones.

Dosage
Tincture (1:5): 1-2 mL (20-40 drops), up to three times per day
Capsules (Mycelial Extract): Two capsules per day
*Excessive amounts can cause edema, anxiety, and headaches

Cordyceps is an adaptogen that enhances aerobic capacity, improves lung function (bronchitis, asthma, COPD), improves cellular energy stores, reduces heart muscle oxygen consumption, prevents immunosuppression, and balances immune function. It is also a kidney tonic and supports those with kidney diseases.

Chinese medicine: Cordyceps is used to treat the kidneys, frequent urination, night sweats, ringing in the ears, dizziness, and fatigue. It is used as part of the treatment for tuberculosis, to control hemoptysis (coughing up blood), and for chronic dry coughs. Cordyceps is also used to treat infertility in both men and women.

Eleuthero (*Eleutherococcus senticosus*)

Taste/Energy: Sweet, slightly bitter, slightly warm
Parts Used: Root and stem bark
Major Constituents: Eleutherosides, chiisanoside, isofraxidin, acanthosides, daucosterol and sesamin

Dosage
Tincture (1:5): 3-5 mL (60-100 drops), 3-4 times per day

Eleuthero is a non-stimulating adaptogen and immune tonic that helps the body utilize nutrients. Like other adaptogens it increases endurance and stamina and positively influences the immune system to reduce illnesses. Eleuthero is especially suited for those who work long hours, stay up all night to get more done, and push themselves until they are “stressed-out”. It is also well-suited for those with ADHD.

Eleuthero has anti-inflammatory, anti-tumor, anti-depressive, anti-steatosis (steatosis is fatty liver disease) and neuro-protective effects. It is also valued for its ability to reduce cardiovascular stress and improve chronic fatigue. Traditional Korean medicine uses Eleuthero to strengthen muscle and bone and studies suggest that it may help prevent postmenopausal osteoporosis.

*In the past, eleuthero was frequently adulterated with *Periploca sepium* which was implicated in several reports of toxicity. Make sure you order from a reputable company.

Rhodiola rosea

Taste/Energy: Sweet, slightly bitter, spicy, cool, **drying**
Parts Used: Root
Major Constituents: Rosavins (rosin, rosin, rosarin), salidrosides, rodiolin, rodionin, and tyrosol

Dosage
Tincture (1:5): 2-3 mL (40-60 drops), 3 times per day
Capsules are often standardized (3% rosins;1% salidroside): 75-100 mg, one to two times per day
*Avoid if sensitive to stimulants like caffeine or have bipolar disorder/manic episodes *Avoid if you have a dry condition (dry cough, vaginal dryness, etc.) *Avoid if in an active autoimmune state

Rhodiola is a **very stimulating adaptogen** as well as an **immune system stimulant**. It is known for increasing longevity, elevating stamina, and having cardio-, neuro-, and hepatoprotective effects. Studies have shown that Rhodiola prevents stress-induced heart damage and improves heart muscle strength. It is also anti-depressant, antiviral, anti-inflammatory, antibacterial, and improves cognitive function.

“I regularly use rhodiola for people with deficient (asthenic) depression or stagnant depression, for altitude sickness (used with cordyceps, reishi, and holy basil), and for adult attention deficit hyperactivity disorder (ADHD) as well as to help people recover from head trauma injury. For head trauma injuries, I combine it with gotu kola, bacopa, white peony, standardized ginkgo extract, holy basil, or Chinese polygala”. Winston, David. Adaptogens: Herbs for Strength, Stamina, and Stress Relief (p. 180). Inner Traditions/Bear & Company. Kindle Edition.

Schisandra chinensis

Taste/Energy: Sweet, sour, salty, bitter, pungent, warm, dry

Parts Used: Fruit (berries) and seed

Major Constituents: Lignans (schisandrin, gomisans, schisandrol) and essential oils

*Avoid if you have acid reflux or peptic ulcers * Avoid if you have epilepsy *Use before or after an illness but not during an acute infection like the flu

Dosage
Tincture (1:5): 2-4 mL (40-80 drops), 3-4 times per day
Capsules: One 500 mg capsule, 3-4 times per day

Schisandra possess the five flavors of classical Chinese medicine: sour, bitter, sweet, salty, and pungent. This five flavor fruit provides support for the five yin organs: the liver, kidneys, heart, lungs, and spleen. It is used for diseases of the gastrointestinal tract or diarrhea, respiratory failure, excess phlegm, wheezing and coughs, cardiovascular diseases, body fatigue and weakness, excessive sweating, and frequent urination. It also reduces hunger and fatigue, delays the aging process, increases vitality, and improves mental health and insomnia. Schisandra is hepatoprotective (protects liver), a potent free radical scavenger, and research suggests that it may be beneficial for congestive heart failure, diabetes, obesity, hepatitis, polycystic ovary syndrome, menopause, cognitive performance, high cortisol levels, heavy metal toxicity, physical stamina, and pneumonia.

“**It has an unusual dual effect on the nervous system. It enhances the reflexes, work performance, alertness, and mental activity. At the same time, it is calming and helps relieve anxiety and stress-induced asthma or palpitations**”. - Winston, David

Complimentary Herbs for Adaptogens

Nutritive and Restorative Herbs/Tonics: Nettle leaf, Dandelion leaf, Alfalfa, Kelp/ Bladderwrack, Parsley, Moringa leaf, Spirulina, Chlorella, Rose hips, Amla, Bee pollen, Astragalus, and Goji berry.

Nervines (nerve tonics) are calming herbs that are mildly relaxing, nourishing to the nerves, but not sedatives: Fresh milky oats (*Avena sativa*), Chamomile, Passionflower, Hawthorn (*Crategus laevigata, C. monogyna*), Lemon balm, and Betony (*Stachys officinalis*).

Nootropics are NOT an herbal category. They are compounds or supplements that enhance cognitive performance and are also known as "smart drugs”. They are a diverse group of substances that improve memory and the ability to learn. They likely work by altering neurotransmitter levels, hormones, and enzymes that improve the oxygen supply to the brain or stimulate nerve growth. Bacopa, Ginkgo, Gotu Kola, Lavender, Sage, Rosemary, and Chinese club moss (contains Huperzine A) are herbs that contain substances that are used as nootropics. The herbs are valued for many actions in addition to cognitive function.

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