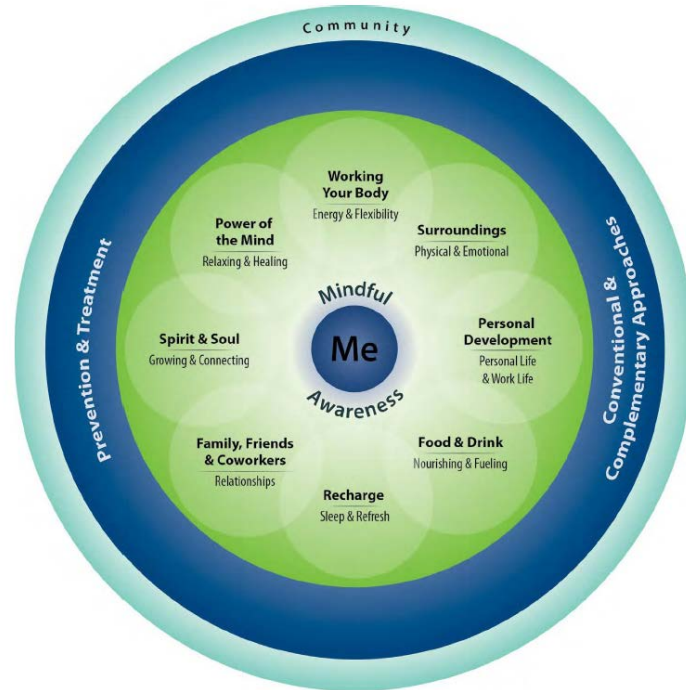


WHOLE HEALTH: CHANGE THE CONVERSATION

Advancing Skills in the Delivery of
Personalized, Proactive, Patient-Driven Care

Adaptogens Clinical Tool



This document has been written for clinicians. The content was developed by the Integrative Medicine Program, Department of Family Medicine, University of Wisconsin-Madison School of Medicine and Public Health in cooperation with Pacific Institute for Research and Evaluation, under contract to the Office of Patient Centered Care and Cultural Transformation, Veterans Health Administration.

Information is organized according to the diagram above, the *Components of Proactive Health and Well-Being*. While conventional treatments may be covered to some degree, the focus is on other areas of Whole Health that are less likely to be covered elsewhere and may be less familiar to most readers. There is no intention to dismiss what conventional care has to offer. Rather, you are encouraged to learn more about other approaches and how they may be used to complement conventional care. The ultimate decision to use a given approach should be based on many factors, including patient preferences, clinician comfort level, efficacy data, safety, and accessibility. No one approach is right for everyone; personalizing care is of fundamental importance.

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Introduction

Note: Please see the module on [Dietary Supplements](#) for more information about how to determine whether or not a specific supplement is appropriate for a given individual. Supplements are not regulated with the same degree of oversight as medications, and it is important that clinicians keep this in mind. Products vary greatly in terms of accuracy of labeling, presence of adulterants, and the legitimacy of claims made by the manufacturer.

Adaptogens are herbs that support the body's ability to deal with stress—whether that stress is from anxiety, fatigue, trauma, infection, etc. They are used to strengthen the immune system and increase overall vitality. Studies of adaptogens are limited, and many have focused on isolated properties of the herbs rather than the whole plants, which are traditionally used. One theory is that adaptogens work by influencing the hypothalamic-pituitary-adrenal (HPA) axis which orchestrates the stress response and also plays a significant role in immune regulation, digestion, metabolism and mood. For example, ashwagandha has been found to decrease urinary markers of stress in animal models and rasayana given to rats exposed to chronic stress showed smaller rises in corticosterone and fewer gastric ulcerations. Another theory is that adaptogens have the ability to strengthen the antioxidant status of mitochondria.^{1,2}

There are three main qualities an herb must have to be considered an adaptogen:

1. It must be nontoxic at normal doses.
2. It should support the entire body's ability to cope with stress.
3. It should help the body return to a state of homeostasis regardless of how the body has changed in response to stress—i.e., it should temper that which is hyper-functioning and support that which is hypo-functioning.²

The most effective use of specific adaptogens comes with the knowledge of the constitution of the patient, the particular actions of the individual herbs, and how these two interface. Herbal medicine in general is an art and a science. Understanding which parts of the plants are most potent and how they should be harvested to reap their full medicinal value are important aspects of herbalism. Because herbs and supplements are not regulated by the Federal Drug Administration, it can be tricky to find a quality product. Looking for a product that is standardized to the active or marker components can be helpful, as can knowing the actual therapeutic doses used either traditionally or in available research—unfortunately, many products on store shelves contain very low doses of multiple herbs that may not be of benefit. Resources such as the Natural Medicines Comprehensive Database can provide some of this information. Also, unless the growing and manufacturing processes of a company are well known to the individual or provider, looking for products that have a United States Pharmacopeia (USP) or Good Manufacturing

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Practice (GMP) seal can help ensure a quality product. See the [Dietary Supplements](#) educational overview for more information.

Adaptogens are often the foundation for any herbal medicine recommendation, the thought being to start first with something that can help restore balance and then proceed to work on the individual symptoms/needs. Selection of which adaptogen to use requires knowledge of the patient as an individual as well as an understanding of the properties of the plant. Below are a number of specific adaptogens and a review of their most common uses. The focus is specifically on immune health.

Specific Adaptogens

Asian ginseng (*Panax ginseng*) and American ginseng (*Panax quinquefolius*)

Asian and American ginsengs are the prototype adaptogens used to support the function of the immune system and the resilience of the physical body. They can help release nitrous oxide and therefore are used in the treatment of erectile dysfunction.³ Asian ginseng has been used for thousands of years in China, Korea, and India for its ability to strengthen the body's natural defenses to cure and protect from illness. The profitability of harvesting wild Asian ginseng resulted in its near extinction by the 1600s. The discovery of American ginseng in the 1700s, therefore, brought rich rewards to those involved in the ginseng trade with Asia. American ginseng was used by several Native American tribes before Europeans discovered it for themselves. Today, the world's supply of Asian ginseng is nearly entirely cultivated, mostly in northeast China and South Korea. American ginseng can be found in rich, rocky, deep-shaded slopes from Quebec to Manitoba and south to northern Florida, Alabama, and Oklahoma as well as in the Cumberland Gap region of the southern Appalachians. Due to overharvesting, it is very rare, and even endangered, in other areas.⁴

The evidence for the use of ginseng for respiratory tract infections is relatively good. When taken daily during cold and flu season, it has been shown to decrease the risk of developing symptoms of an upper respiratory tract infection (URI) and to decrease the duration and severity if a URI develops. It may be more effective at decreasing repeated URIs than for treating an initial cold-season infection. It has been shown to decrease the risk of influenza in institutionalized elderly individuals. Many of these studies used ginseng *in addition* to influenza vaccination.^{5,6} Ginseng should not be used as a substitute for influenza vaccination, especially in high risk individuals.

Dose:

- Extract: Standardized extracts of Asian ginseng should contain 4-7% ginsenosides 100-200 milligrams daily.
- Tincture: 1-2 milliliters, up to three times daily.
- Tea: Simmer 3-6 teaspoons of root for 45 minutes in 3-4 cups water. Strain and cool. Drink 1-3 cups daily.
- Capsules: 500-1000 milligrams dried, powdered root taken one to two times daily.⁴

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Ginseng has the potential to raise blood pressure, so this should be monitored. It can also decrease blood glucose levels, so caution is advised in diabetics. Because of its stimulating properties, ginseng can cause some anxiety and insomnia.⁴

Eleuthero (*Eleutherococcus senticosus*)

Eleuthero was formerly known as “Siberian ginseng,” but this created confusion as it is not in the *Panax* genus. It has been used traditionally to increase vital energy, improve sleep in those bothered by many dreams, improve appetite, and treat lower back and kidney pain, as well as rheumatoid arthritis.¹ Herbalists will often use it as an adaptogen for individuals who work hard, play hard and barely sleep.³

The combination of eleuthero and andrographis (in this case, Kan Jang, prepared by the Swedish Herbal Institute), taken within 72 hours of onset of URI at 400 milligrams three times daily, significantly decreased symptoms if taken for four to five days.⁷ Elagen, an oral Eleuthero extract containing 0.3% eleutherosides, at a dose of 400 milligrams daily has been shown to decrease the frequency, severity and duration of herpes simplex virus type II infections).⁸

Eleuthero is generally considered safe when used in standard doses (as above). Side effects such as mild drowsiness, anxiety, irritability, melancholy, mastalgia and uterine bleeding are more likely at higher than recommended doses. Use with caution in patients with cardiovascular disease given its potential to cause palpitations, tachycardia and elevate blood pressure. Avoid long term use due to potential for inflammation of nerves, especially the sciatic.⁷

Schisandra (*Schisandra chinensis*)

Schisandra is one of the 50 fundamental herbs in Chinese medicine; historically it was thought to protect health and prolong life. It was in the 1960s that it began to be recognized as an adaptogen, based on research out of Russia. It was found to increase physical stamina, provide protection from stress, and protect the liver from a variety of toxins).⁴

Studies on schisandra have found it is likely beneficial for improving concentration, coordination, and endurance. It also seems to reduce serum glutamic-pyruvic transaminase levels in those with viral or drug-induced hepatitis.⁹

Dose:

- Tincture: 1-2 milliliters three times per day.
- Tea: Bring 1 cup water to a boil then simmer. Add 1-2 teaspoons of the dried fruits for 10 minutes. Strain, cool and drink one to three times per day.
- Extract: See manufacturer’s dosing. Typically standardized for schisandrins.

Use schisandra with caution in diabetics, those with high blood pressure, those sensitive to mildly stimulating herbs, and those on psychiatric medications.⁴

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Ashwagandha (*Withania somnifera*)

The name “ashwagandha” translates into “sweat of a horse,” presumably because the root, which is the part of the plant used medicinally, is thought to smell like a damp horse.¹ While it is sometimes referred to as “Indian ginseng” because of its adaptogenic properties, it is not in the *Panax* genus. It has a calming effect rather than being stimulating like American and Asian ginseng. There is some evidence that it can improve anemia in children, not to mention libido and sexual function in adults, and it may have a role in cancer treatment by improving efficacy of radiation and chemotherapy and reducing side effects. Animal studies have shown ashwagandha to slow tumor growth.⁴ As an adaptogen, this herb can be helpful for those who are fatigued during the day but have a hard time sleeping at night—i.e., those that are “wired and tired”.¹⁰

Dose:

- Tea: Simmer 1 teaspoon of powdered root in 1 cup water for 10 minutes. Strain and drink a third of a cup three times daily.
- Capsule: 1-6 grams per day of dried root, taken in two to three divided doses.
- Extract: 500 milligrams two to three times daily of a standardized extract containing 2.5% anolides.
- Tincture: 2-4 milliliters, three times daily.

Ashwagandha is generally well tolerated but should be used with caution in those on thyroid medication as it can stimulate thyroid hormonal activity. It should not be used in pregnancy. Because of its sedative properties, use with caution in those already on sedating medications.⁴

Rhodiola, golden root (*Rhodiola rosea*)

Rhodiola is thought to have been used by Vikings to improve physical strength and endurance. In a small study, it was found to be similarly effective to prescription anxiolytics in the treatment of generalized anxiety disorder. There is evidence that it can improve depressive symptoms of low mood, insomnia, and mood instability. In those with chronic fatigue syndrome, it has been shown to improve fatigue and mental focus and decrease the cortisol response to stress.⁴

Dose:

- Tea: Steep 1 teaspoon rhodiola root in 1 cup hot water for five minutes. Strain, drink three times daily.
- Tincture: 3-5 milliliters twice daily or as directed.
- Extract: 100-576 milligrams extract standardized to 3.6% rosavin and 1.6% salidroside.

Use rhodiola with caution in those on antidepressant medications.⁴

Holy Basil (*Ocimum sanctum*, *O. gratissimum*)

Holy Basil has been described as an uplifting herb for those with mental fog, used by yogis to embrace enlightenment.³ It is also often used in those with significant fatigue. Limited

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research has shown effectiveness for anxiety; an extract of 500 milligrams twice daily after meals for 60 days decreased depression, anxiety, and stress in those with general anxiety disorder. Early studies have shown it to have significant hypoglycemic effects. A preliminary study of a holy basil extract (manufactured by Natural Remedies Pvt. Ltd., India), taken at a dose of 400 milligrams in the morning and 800 milligrams at night for six weeks, resulted in improvement in stress-related symptoms including forgetfulness, sexual problems, exhaustion, and sleep disturbances. No side effects have been reported, but preliminary studies in animal models show a possible decrease in sperm count and fertility.¹¹

Astragalus (*Astragalus membranaceus*)

In Chinese medicine, astragalus (or *huang qi*) has been traditionally praised for its ability to stimulate the body's protective energy (*qi*), fight fatigue and prevent disease. As an adaptogen in Western herbal medicine, it is used to protect the body from physical, mental, and emotional stress by supporting the immune system.⁴

Studies have shown that when taken regularly, astragalus can improve white blood cell function, increase antibody levels and levels of interferons (immune system proteins that help fight viral infections and tumors). These impacts can help prevent colds and flu during peak winter months. A fairly large (1000 patients) Chinese study supports its role in upper respiratory infection prevention.⁴ Other studies have shown it to be helpful in decreasing symptoms of allergic rhinitis. Some herbal combinations which have included astragalus have shown it to have some benefit as an adjunctive treatment in those with breast and lung cancer.¹²

Dose:

- Tea: 3-6 tablespoons of dried, chopped root simmered in 2-4 cups water for 10-15 minutes.
- Capsule: 1-3 grams of dried, powdered root daily.
- Tincture: 2-4 milliliters, three times daily.

Astragalus should not be used to treat an acute infection, especially in higher doses. It should be used with caution in those with autoimmune disorders as, theoretically, its immune-stimulating properties could increase disease activity.⁴

Cordyceps (*Cordyceps sinensis*)

Although it can now be cultivated in a laboratory, Cordyceps is actually a fungal parasite that lives on caterpillars in the high mountains of China. It is sometimes considered an adaptogen due to its immune boosting properties. Small studies have shown it can be beneficial in cyclosporine and aminoglycoside-induced renal damage, for improving quality of life and cellular immunity following chemotherapy treatment in cancer, and for supporting liver function in those with hepatitis B.¹³

Dose:

- 3 grams daily of fermented *Cordyceps sinensis*.

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While its immune stimulating properties could theoretically increase autoimmune disease activity, there is some preliminary research showing benefit in treating systemic lupus erythematosus.¹³

Reishi (*Ganoderma lucidum*)

Reishi mushroom has been used for immune boosting effects, for treatment of upper respiratory viral infections, and for reducing stress. Anecdotal evidence suggests it may be beneficial for the treatment of post-herpetic neuralgia in those who don't respond to conventional treatment. The dose used was 32-72 grams dry weight daily. Reishi mushroom is generally considered quite safe. It can occasionally cause dryness of the upper respiratory mucosa, itchiness, stomach upset and nosebleeds. There are reports of blood stools with prolonged use of three to six months).¹⁴

Uses, dosing, safety and other key information about adaptogens is summarized in Table 1.

Table 1. Summary of Commonly-Used Adaptogens				
Common Name/ Official Name	Uses/Actions	Dose	Safety	Comments
Asian Ginseng (<i>Panax ginsen</i>) and American Ginseng (<i>Panax quinquefolius</i>)	<ul style="list-style-type: none"> • Immune function support • Prevention of influenza and recurrent URIs when taken daily during cold and flu season • Supports resilience of the body to physical stress • Erectile dysfunction 	<ul style="list-style-type: none"> • Extract: Should contain 4-7% ginenosides. 100-200 mg daily • Tincture: 1-2 mL, up to 3 x daily • Tea: Simmer 3-6 teaspoons of root for 45 minutes in 3-4 cups water. Strain and cool. Drink 1-3 cups daily • Capsules: 500-1000mg dried, powdered root taken 1-2 x daily 	<ul style="list-style-type: none"> • Potential to raise blood pressure • Can decrease blood glucose levels • Somewhat stimulating and can cause anxiety and insomnia in some 	<ul style="list-style-type: none"> • Prototypic adaptogen

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<p>Eleuthero <i>(Eleutherococcus senticosus)</i></p>	<ul style="list-style-type: none"> • Decrease symptoms of URI • Decrease frequency, severity and duration of herpes simplex virus 2 (HSV2) infections 	<ul style="list-style-type: none"> • For URI: Eleuthero and andrographis (Kan Jang, Swedish Herbal Institute) taken within 72 hours of onset of URI at 400 mg three times daily for 4-5 days • For HSV : Elagen, an oral Eleuthero extract containing 0.3% eleutherosides, at a dose of 400 mg daily 	<ul style="list-style-type: none"> • Generally safe in standard doses. • Mild drowsiness, anxiety, irritability, melancholy, mastalgia, and uterine bleeding at higher than normal doses • Caution in patients with cardiovascular disease, given its potential to cause palpitations, tachycardia and increases in blood pressure • Avoid long term use due to potential for inflammation of nerves, especially the sciatic 	<ul style="list-style-type: none"> • Formerly known as Siberian ginseng • Used in those who “work hard, play hard and barely sleep”
<p>Schisandra <i>(Schisandra chinensis)</i></p>	<ul style="list-style-type: none"> • Increase physical stamina and provide protection from stress • Protect the liver from a variety of toxins • Improve concentration, coordination, and endurance • Reduce serum glutamic-pyruvic transaminase levels in those with viral or drug-induced hepatitis 	<ul style="list-style-type: none"> • Tincture: 1-2 mL 3 times per day • Tea: Bring 1 cup water to a boil then simmer. Add 1-2 teaspoons of the dried fruits for 10 minutes. Strain, cool and drink 1-3 times per day. • Extract: See manufacturer’s dosing. Typically standardized for schisandrins 	<ul style="list-style-type: none"> • Use with caution in diabetics, those with high blood pressure, those sensitive to mildly stimulating herbs, and those on psychiatric medications 	

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<p>Ashwagandha <i>(Withania somnifera)</i></p>	<ul style="list-style-type: none"> • Modulate impacts of chronic stress • Improve libido and sexual function • May improve efficacy of radiation and chemotherapy and reduce their side effects • Potential to slow tumor growth 	<ul style="list-style-type: none"> • Tea: Simmer 1 teaspoon of powdered root in 1 cup water for 10 minutes. Strain and drink 1/3 cup 3 times daily • Capsule: 1-6 grams per day of dried root, taken in 2-3 divided doses • Extract: 500 mg of a standardized extract containing 2.5% anolides 2-3 times daily • Tincture: 2-4 mL, 3 times daily 	<ul style="list-style-type: none"> • Generally well tolerated • Use with caution in those on thyroid medication as it can stimulate thyroid hormonal activity • Should not be used in pregnancy • Due to sedative properties, use with caution in those already on sedating medications 	<ul style="list-style-type: none"> • Seems to work well to even-out those that are wired at night but tired during the day • More calming than ginseng
<p>Rhodiola <i>(Rhodiola rosea)</i></p>	<ul style="list-style-type: none"> • Improve mental focus and stamina • Improve depressive symptoms of low mood, insomnia and mood instability • Reduce symptoms generalized anxiety disorder • Decrease the cortisol response to stress 	<ul style="list-style-type: none"> • Tea: Steep 1 teaspoon rhodiola root in 1 cup hot water for 5 minutes. Strain, and drink 3 times daily • Tincture: 3-5 mL twice daily or as directed • Capsule: 360 mg 1-2 times daily • Extract: 100-576 mg extract standardized to 3.6% rosavin and 1.6% salidroside 	<ul style="list-style-type: none"> • Use with caution in those on antidepressant medications 	<ul style="list-style-type: none"> • Thought to have been used by Vikings to improve physical strength and endurance • More stimulating • Consider for those with chronic fatigue syndrome

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<p>Holy Basil (<i>Ocimum sanctum, O. gratissimum</i>)</p>	<ul style="list-style-type: none"> • Help with mental fog, fatigue, anxiety and depression • Help with stress related symptoms such as forgetfulness, sexual problems, exhaustion, and sleep problems • Decrease hyperglycemia 	<ul style="list-style-type: none"> • 500 mg twice daily after meals -Or- • 400 mg in the morning and 800 mg at night 	<ul style="list-style-type: none"> • No side effects have been reported, but preliminary studies in animal models show a possible decrease in sperm count and fertility 	<ul style="list-style-type: none"> • Used by Yogis to enhance enlightenment
<p>Astragalus (<i>Astragalus membranaceus</i>)</p>	<ul style="list-style-type: none"> • Protect the body from physical, mental and emotional stress • Improve white blood cell function, increase antibody levels and levels of interferon • Prevent colds and flu during peak winter months • Decrease symptoms of allergic rhinitis 	<ul style="list-style-type: none"> • Tea: 3-6 tablespoons of dried, chopped root simmered in 2-4 cups water for 10-15 minutes • Capsule: 1-3 grams of dried, powdered root daily • Tincture: 2-4 mL, 3 times daily 	<ul style="list-style-type: none"> • Not to be used in an acute infection, especially in higher doses. • Use with caution in those with autoimmune disorders as, theoretically, its immune stimulating properties could increase disease activity 	<ul style="list-style-type: none"> • Consider in those who are predisposed to recurrent URIs
<p>Cordyceps (<i>Cordyceps sinensis</i>)</p>	<ul style="list-style-type: none"> • Decrease cyclosporine and aminoglycoside-induced renal damage • Improve quality of life and cellular immunity following chemotherapy treatment in cancer • Improve liver function in those with hepatitis B 	<ul style="list-style-type: none"> • 3 grams daily of fermented Cordyceps sinensis 	<ul style="list-style-type: none"> • Could theoretically increase autoimmune disease activity, but some research shows benefit in treating systemic lupus erythematosus 	

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Reishi (<i>Ganoderma lucidum</i>)	<ul style="list-style-type: none"> • Support immune function • Treat URI • Reduce stress • Treat post herpetic neuralgia 	<ul style="list-style-type: none"> • 32-72 grams dry weight daily 	<ul style="list-style-type: none"> • Generally considered safe • Can cause dryness of the upper respiratory mucosa, itchiness, stomach upset and nosebleeds • Reports of bloody stools with prolonged use of 3-6 months 	
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Whole Health: Change the Conversation Website
<p>Interested in learning more about Whole Health? Browse our website for information on personal and professional care.</p> <p style="color: blue; text-align: center;">http://projects.hsl.wisc.edu/SERVICE/index.php</p>

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