



# **Medicinal Herbal Infusions**

**by Sharlene Peterson for Genesis School of Natural Health ©2022**

# Infusions



Infusions are one of the easiest methods for preparing effective herbal remedies. What is not easy is choosing a limited variety of herbs for the home medicine cabinet when there are so many choices! I decided on nine common herbs and one adaptogen.

The list below is based on the herbs having more than one action that is commonly needed for acute conditions that include indigestion, aches & pains, sore throats, congestion, coughs, fever, sleep issues, stress, anxiety, bites and bruises, skin rashes, inflammation, viral or bacterial challenges, and more.

Peppermint, Thyme, Sage, Lemon Balm, Chamomile, Yarrow,  
Echinacea, Red Clover, Nettles, and Schisandra.

# Tea, Infusion, or Decoction



A decoction is not a hot water infusion. A decoction involves simmering the herbs over heat (stovetop) for 15-20 minutes whereas a hot infusion is adding boiling water to the herbs and letting the herbs steep in a covered container for 20-30 minutes with no additional heat.



A decoction will also “boil off” volatile oils (essential oils). An uncovered hot infusion will also allow volatile oils to escape with the steam. Tea is a weak infusion when boiling water is poured over the herbs, the cup is not covered, and the herbs only steep 2-3 minutes.



In general we decoct roots, seeds, barks and mushrooms and infuse leaves, soft stems, flowers, and fruits. In general because there are always exceptions! While not all herbal constituents are released into the water when making a tea or infusion (some need alcohol, oil, etc.) the variety of constituents dissolved into water is truly inspiring.

# Directions for Infusions

Before adding plant parts for an infusion or tea you will need to finely slice, chop, or crush the plant parts to expose more surface area (cell walls) to the water (solvent/menstruum). Crush the plant parts coarsely if you want a clear liquid and very fine if you prefer to have additional plant material in your tea after straining. Plant material provides additional nutrients, fiber, and other beneficial constituents.

**I would suggest the following concentration for medicinal teas:**

**2-3 teaspoons of dried herb per cup of water**

**8-12 teaspoons of dried herb per quart**

Once you've measured your tea, pour boiling water over it and cover the container. Allow it to steep/infuse for at least 20-30 minutes. Make sure you press or squeeze the herbs to get as many of the constituents out as possible! If the taste is too strong or the tea is not hot enough add some hot water.

# Medicinal Infusion Dosage



Dosage depends on an individual's age, herbs you are using, severity of the condition, and the strength of the infusion (teaspoons infused per cup of water). 3 teaspoons = 1 tablespoon

In general, 3 teaspoons of the herbal combination (2-4 different herbs) per cup of water and consuming 3 to 6 cups a day is ideal for acute conditions for young adults and adults.

For the very young (1-4 years old) you may only need to use 1-3 tablespoons of the finished infusion blend 2-4 times a day.

Always take into consideration the herbs used, why you are using them, and your knowledge about the child.

# Infusion Actions (water extractions)

**Peppermint** - antiviral, antibacterial, calms stomach/nausea, antispasmodic, uplifts mood, increases alertness and cognition and helps to improve long and short-term memory, improves quality of sleep

**Thyme** - broad antibacterial activity, antioxidant, anti-inflammatory, expectorant, antitussive (relieves coughs), antispasmodic, carminative (calms gas/flatulence)

**Sage** - antibacterial, antiviral, antifungal (stronger as a decoction), antioxidant, relieves excess sweating, highly anti-inflammatory, soothes inflammation of the mouth and throat, antioxidant, relieves pain, helps with the “blues”

**Lemon Balm** - calming and uplifting, use for tenseness, restlessness, irritability, mild antispasmodic, antioxidant, antiviral (combine with sage & peppermint), digestive complaints, nervous stomach aches

**Schisandra** (adaptogen) - immune modulating, antioxidant, anticancer, anti-inflammatory, liver protectant, neurotoxicity protection, recovery from prolonged emotional stress and anxiety

# Infusion Actions (water extractions)

**Chamomile** - calming, sleep inducer, soothes sore throats, antispasmodic, relieves digestive/stomach upset (gas, colic, inflammation), topically for skin irritations

**Yarrow** - astringent reduces fever (diaphoretic), anti-inflammatory, antioxidant, tones mucous membranes, anti-diarrheal, anti-spasmodic, stimulates digestion and circulation

**Echinacea** (water-soluble polysaccharides) - lymphatic, immunomodulatory, strengthens innate immune response, preventative

**Red Clover** - lymphatic and lung decongestant, pneumonia, bronchitis, whooping cough, body aches, immune stimulant, anti-carcinogenic, skin conditions and inflammation via blood and lymph cleansing, topical antiseptic and anti-inflammatory

**Nettles** - nutritional, anti-inflammatory, lymphatic decongestant, helps move uric acid via kidneys, reduces histamine/allergy reactions

# Peppermint (*Mentha piperita* L.)



Peppermint is a hybrid mint of watermint and spearmint and belongs to the mint family Lamiaceae. It is antioxidant, antiallergenic, antiviral, antibacterial, soothing, and enhances mental alertness. Peppermint relieves the symptoms of illnesses such as flu/colds, inflammation, cramps/spasms, indigestion, nervous headaches, nausea, sore throat, and fatigue. It increases mental alertness (cognition) while soothing nervousness and restlessness which improves the quality of sleep.

The major phytochemicals of peppermint include eriocitrin, rosmarinic acid, luteolin 7-O-rutinoside, hesperidin, and the essential oils menthol, menthone and limonene. Menthol gives peppermint its cooling properties and minty scent.

# Thyme (*Thymus vulgaris*)



Thyme has broad antibacterial activity and is antiviral, antioxidant, anti-inflammatory, expectorant, soothes coughs/bronchitis and laryngitis, antispasmodic, stimulates digestion action which relieves gas/flatulence, anticarcinogenic, and antiseptic. Aqueous extracts of thyme significantly inhibited the growth of *H. pylori*. (Tabak et al., 1996).

Antimicrobial action is likely the synergistic result of the thymol, terpenes, eugenol, flavones (naringenin, luteolin and apigenin) glycosides of phenolic monoterpenoids and aliphatic alcohols. The main phenolic acid is rosmarinic acid but thyme also has significant amounts of caffeic-, chlorogenic-, p- coumaric-, ferulic- and syringic acids. Thyme to the mint family Lamiaceae.

# Sage Leaf (*Salvia* species)



The genus *Salvia*, commonly known as sage, is the largest member of Lamiaceae mint family. Sage is antibacterial, antiviral, antifungal (stronger as a decoction), antioxidant, relieves excess sweating, highly anti-inflammatory, soothes inflammation of the mouth and throat, bronchitis, asthma, antioxidant, relieves pain, and provides digestive support.

Sage has a variety of flavonoids and polyphenolic compounds. Caffeic acid, a central phytochemical of the Lamiaceae plants, occurs mainly in the form of rosmarinic acid. Sage has high concentrations of rosmarinic and carnosic acids and contains ursolic acid, all of which have shown strong antioxidant properties. Other major phytochemicals are: 1,8-cineole, camphor, borneol, bornyl acetate, camphene,  $\alpha$ - and  $\beta$ -thujone, linalool,  $\alpha$ - and  $\beta$ -caryophyllene,  $\alpha$ -humulene,  $\alpha$ - and  $\beta$ -pinene, viridiflorol, pimaradiene, and salvianolic acid.

# Sage as an antifungal

The antifungal activity of decoction, infusion and hydroalcoholic extract of cultivated sage were evaluated, and further characterized in terms of phenolic composition (HPLC-DAD-ESI/MS). Antifungal activity was assessed against a total of 19 *Candida* strains of *C. albicans*, *C. tropicalis*, *C. parapsilosis* and *C. glabrata* recovered from different human biological samples. The most pronounced effect was observed against *C. parapsilosis*, followed by *C. tropicalis* and *C. albicans*. No effect was observed against the three *C. glabrata* strains. **In general, decoction presented the most pronounced effect, followed by infusion and hydroalcoholic extract**, varying directly according with the extract concentration. Decoction also showed the highest concentration in phenolic compounds...Rosmarinic acid and luteolin 7-O-glucuronide were the main phenolic compounds. Thus, the use of sage decoction, incorporated on daily food dietary, or even as complement to an antifungal therapy, could provide considerable benefits, not only by internal but also external use, **without the common side effects reported for essential oil.** - Planta Med 2014; 80 - P1L117;DOI: 10.1055/s-0034-1394774

# Lemon Balm (*Melissa officinalis*)



Lemon balm, another member of the Lamiacea mint family, is approved by the German Commission E for nervous sleep disorders and functional gastrointestinal complaints. It is calming and uplifting making it useful for tenseness, restlessness, irritability, and nervous stomach aches. Lemon balm is also a mild antispasmodic, antioxidant, and **antiviral especially when combined with sage & peppermint.**

Lemon balm's lemony flavor and aroma are largely due to citral (neral and geranial), citronellal, geraniol (rose-scented) and linalool (lavender-scented). It also contains flavonoids (quercitrin, rhamnocitrin, luteolin), polyphenolic compounds (rosmarinic acid, caffeic acid, and protocatechuic acid), monoterpenoid aldehyde, monoterpene glycosides, triterpenes (ursolic and oleanolic acids), sesquiterpenes, and tannins.

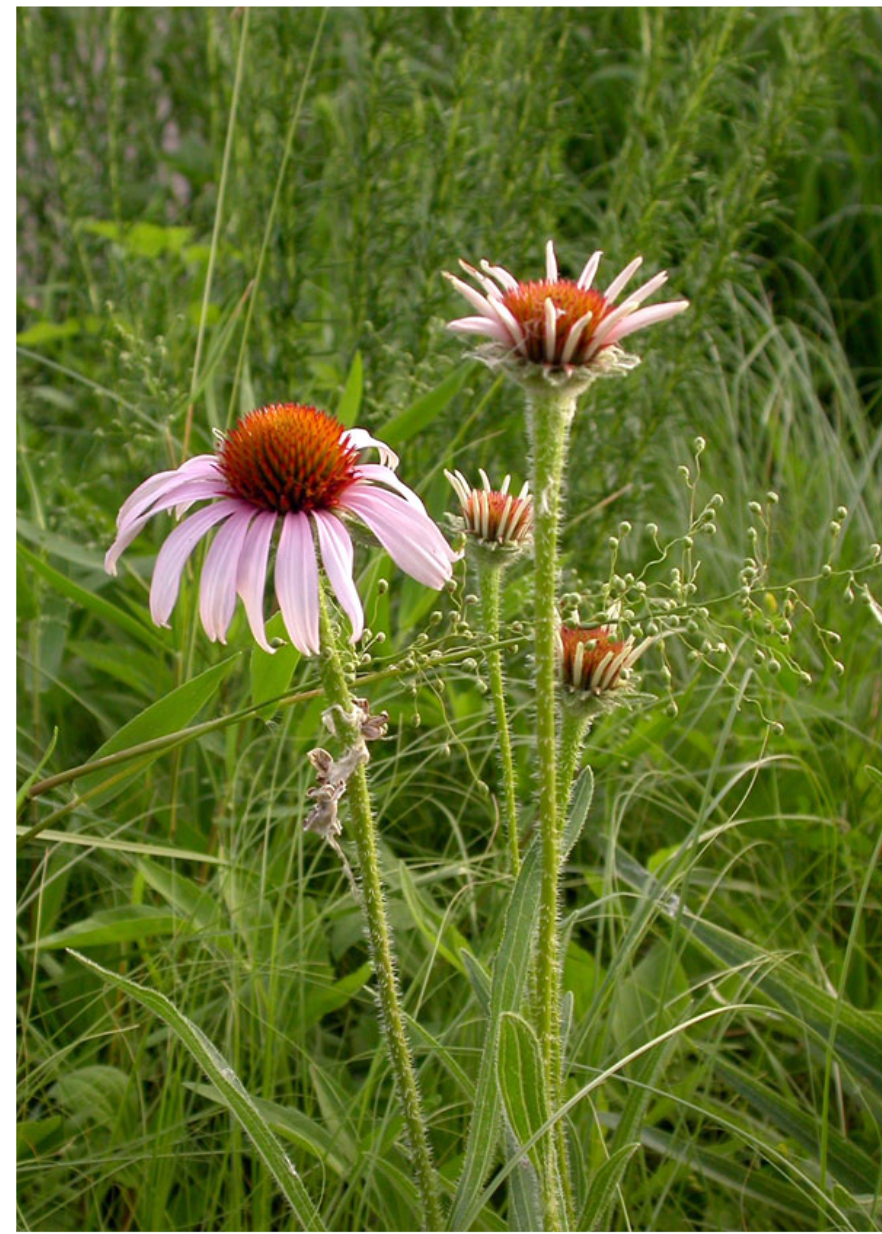
# Yarrow



Also in the family Asteraceae, yarrow used alone with an infusion dosage of 2-3 ounces per cup used 3-4 times daily, is often all that is needed when children or adults are experiencing the effects of many cold and flu-like viruses.

Yarrow is anti-inflammatory, antispasmodic, hepatoprotective, calming, antioxidant, antiviral, decreases fever/induces sweating, and increases circulation. It also has astringent and bitter properties that help tone the intestinal walls, decrease diarrhea, relieve bowel spasms, and stimulate digestion and appetite. Yarrow used topically is an excellent antiseptic and calms inflamed skin conditions. It also helps stop bleeding.

# Echinacea (*E. angustifolia* and *E. purpurea*)



The water-soluble polysaccharides of *Echinacea* species are anti-inflammatory, stimulate innate immune responses (natural killer cells, interleukin-1, interleukin-6, TNF- $\alpha$ ), and reduce the infectivity of viruses, bacteria, and fungi/yeasts. Echinacea strengthens the immune system so it is able to resist pathogenic infections. “For this reason, it can be suitable for prevention against and treatment of various infectious diseases such as infections of the upper and lower respiratory systems, wound infections, and chronic pelvic infections”. (<https://europepmc.org/article/MED/26009695>)

Alkamides in *Echinacea* spp. are not soluble in water (need a tincture). “Alkamides are demonstrated to be effective on cannabinoid receptor type 2 (CB2), and this is considered as a possible mechanism of their immunomodulatory properties.” (<https://europepmc.org/article/MED/26009695>)

# German Chamomile (*Chamomilla recutita*) Roman Chamomile (*Chamaemelum nobile*)



Chamomile flower used as an infusion helps calm digestive disorders such as spasms or colic, upset stomach, flatulence (gas), ulcers, and inflammation. “Chamomile is widely regarded as a mild tranquilizer and sleep-inducer. Sedative effects may be due to the flavonoid, apigenin that binds to benzodiazepine receptors in the brain.” (<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC2995283>)

The key essential oils in German chamomile flowers are  $\alpha$ -bisabolol and azulenes which include chamazulene. The essential oil of Roman chamomile mainly contains angelic acid and tiglic acid with lower amounts of farnesene,  $\alpha$ -pinene, and chamazulene. Chamomile constituents also include lactones, flavanoids (apigenin, luteolin, patuletin, and quercetin), coumarins (herniarin and umbelliferone), terpenoids, and mucilage.

# Contact Allergies and Asteraceae

A low percentage of people are sensitive to chamomile and develop allergic reactions. People sensitive to ragweed and chrysanthemums or other members of the Asteraceae/Compositae family are more prone to develop **contact allergies** to chamomile. Non-contact allergy symptoms may include hay fever or asthma and while very rare, anaphylaxis (severe allergy reaction).

The Asteraceae family is commonly referred to as the aster, daisy, composite, or sunflower family. The Asteraceae family is very large, including nearly 13,000 species. **Examples:** Chamomile, Dandelion, Calendula, Echinacea, and Yarrow.

# Red Clover (*Trifolium pratense*)



Red Clover was highly regarded as a blood and lymphatic cleansing medicinal herb, especially when chronic disease had set into the lungs or the skin. It is antispasmodic which relieves dry, irritable, and spasmodic coughs (whooping cough, bronchitis, laryngitis).

D Hoffmann writes "Red Clover is a useful remedy for children with skin problems. It may be used with complete safety for any case of childhood eczema, and can be effective for other chronic skin conditions as well, such as psoriasis."

Red clover leaves contain formononetin, genistein, biochanin A-7-glucoside, daidzein 7-O- $\beta$ -D glucoside, and biochanin A isoflavones, as well as epigallocatechin, caffeic acid, quercetin-3,7-diglucoside, apigenin-7-O-glucoside gallocatechin, and apigenin 6,8-diglucoside flavonoids. (<https://onlinelibrary.wiley.com/doi/full/10.1002/fsn3.1820>).

# *Schisandra* berries



Schisandra is unique in that it has a five-flavor berry. It is tart, spicy, sweet, salty, and bitter. It is an adaptogen that mildly stimulates the central nervous system, modulates the immune system, is antiviral, increases vitality, improves mental health and sleep, is anti-aging, and relieves anxiety. Schisandra is also neuroprotective, cardio-protective, anti-cancer, antioxidant, hepatoprotective/increases glutathione, and supports healthy inflammation responses.

Schisandra contains many bioactive compounds, including over 30 lignans, triterpenes, phenolic acids, flavonoids, essential oils, and polysaccharides. The main essential oils are ylangene,  $\alpha$ -himachalene, and  $\beta$ -himachalene. The berries also contain a substantial amount of iron, manganese, copper, potassium, and magnesium.

# Nettle Leaf (*Urtica dioica*)



Nettle has a very high mineral profile. Nettle is highest in vitamin A but it also contains the vitamins B, C, and K, protein, lutein, calcium, iron, magnesium, silicon, potassium, manganese, zinc, and chromium. Nettles contain the antioxidant and anti-inflammatory flavonoids kaempferol and quercetin. All plants have a variety of phytochemicals that work synergistically!

Nettles are anti-inflammatory, anti-septic, mildly hypoglycemic, diuretic, anti-hemorrhagic, hemostatic, aid detoxification, a vasodilator, circulatory stimulant, hypotensive, nutritive, galactagogue, astringent, expectorant, and they are anti-allergic. A wonderful addition to any infusion for general health.

# Herbal Infusion Blends

**Peppermint, Thyme, Sage, Lemon Balm, Chamomile,  
Yarrow, Echinacea, Red Clover, Nettles, and Schisandra.**

There are many combinations with 10 herbs. The following are generalizations that should be modified based on the individual's symptoms and whether it is an acute or chronic condition.

**Lung Congestion and/or Coughs:** Thyme, Sage, Echinacea, and Red Clover

\*If you have a flu/cold virus alternate this infusion with the antiviral blend.

**Restless/Irritable:** Chamomile, Lemon Balm, and Nettles

**Stomach ache/body aches:** Chamomile, Peppermint, and Yarrow

**Recovery after Illness:** Schisandra, Echinacea, Nettles, and Peppermint

**Supportive/Protective/Nutritive** infusions: Schisandra, Nettles, and Echinacea

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**Anti-viral Infusion:** Lemon balm, Peppermint, and Sage. Adults may use 3 teaspoons herbal mix per cup of water and drink one cup 3 to 4 times per day.

**Anti-bacterial:** Thyme, Sage, Echinacea, and Red Clover

**Fever:** Yarrow, Peppermint, and Sage. Adults may use 3 teaspoons herbal mix per cup of water and drink one cup 3 to 4 times per day. Children often only need yarrow.

**Fever and irritability (viral):** Chamomile, Lemon balm, and Sage

**Fever and irritability (bacterial):** Chamomile, Thyme, and Sage

# Thoughts

Reactions like coughing up large amounts of phlegm or even throwing up are not necessarily a bad reaction. If it does happen it likely means they are now done with a dose that high or they may not need additional infusions. This depends on how they are feeling and the symptoms after expelling “stuff”.

Mucous in the lungs needs to move! An infection that causes your airways to swell and your air sacs to fill with mucus and other fluids makes it more difficult to breathe and more likely that an acute viral infection may lead to a secondary (bacterial) infection like pneumonia.

In many cases, throwing up is a protective reflex to rid your body of viruses, bacteria, or parasites in your digestive system.

The point is that we shouldn't always focus on suppressing symptoms.



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