

Medicinal Uses for Herbal Teas: Evidence, Dosing, and Preparation Methods

Herbs have been used for centuries to treat a variety of medical illnesses. Many of the uses have come from folklore or cultural traditions. Scientific evaluation of herbals has only recently begun, but, for many herbals and many ailments, is still lacking or has inconsistent results. This monograph evaluates the scientific evidence for 10 common herbal tea preparations and their effectiveness. There are many other common herbal teas used medicinally; these 10 were chosen as the focus of this *Supplement Sampler* edition for their good safety profiles, lower drug-herb interaction rates, better side effect profiles, and better evidence ratings. Also, recommended dosing, safety information, drug-herb interactions, side effects, and tea preparation are also included in this edition.

Medicinal uses for 10 common herbs

Information has been collected through a PubMed search as well as utilizing Natural Database and Micromedex to develop an evidence table (see pages 3-5). Level of evidence is rated according to the SORT criteria¹. Known safety information is listed. Many herbs are GRAS (generally regarded as safe) in food doses, but have insufficient information or limited evidence to evaluate their safety in medicinal concentrations. Most herbs do not have good evidence for use in pregnancy and for children because studies have not evaluated long term use. However, herbs and teas have been used commonly for years in these populations in many cultures. The drug-herb interactions are listed; most of these interactions are possible interactions given the mechanism of the herb and not absolute contraindications for using the teas. Side effects are listed—as for any drug or food,

there are potential allergic reactions to all the herbs. Dosing is recommended from various sources. However, like other therapies, dosing may be adjusted according to the tea effect in the patient. Studies referenced in this monograph used a variety of methods to administer herbs (tea, extract in liquid or pill form, ground herb, etc). The tea dosing is listed based on the general recommended ranges from studies. Dosing for children is only known for a couple herbs and was included in the table if known. If patients do not care for tea, many of these herbs come in an extract or pill form that they may take as an alternative. This is a good alternative especially if using peppermint for IBS, since enteric coated peppermint tablets are available. To convert the tea dosing to pill dosing (rough conversion):

1 g dried herb \approx 1.5 tsp dried herb

How do I know if tea is right for my patient?

Herbal teas are commonly used as a food product by many people. These teas can be offered to patients who are looking for a complementary therapy and/or are not interested in pharmaceuticals. Most scientific evidence is compared to placebo, but some more recent trials compare herbal preparations with the standard first line pharmaceutical therapy. In some studies, the herbal preparation shows better results with fewer side effects than the pharmaceutical therapy.

Like any other prescription, before recommending a tea therapy, check the patients' food and environmental allergies, look for any potential drug-herb interactions, and, for female patients, be aware of potential herb-pregnancy concerns.



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Tea Preparation

Teas can be prepared from either fresh or dried herbs. Most patients have easier access to dried herbs in the form of tea bags or bulk herb.

Infusion²:

This is the most common way to prepare teas. Pour 1 cup boiling water over the tea bag or dried herbs. Steep (let herbs remain immersed in hot water) for designated time. Remove tea

Clinical Pearls

- Herbal teas can be a good alternative or addition to pharmaceuticals for some patients.
- Side effects are generally few, but are generally allergic in character.
- As with any prescription, check allergies, medications, and other medical conditions before recommending a tea regimen.
- Some herbs, like ginger root, rosemary, and fennel seed can easily be found at neighborhood grocery stores.
- Cinnamon effects on glucose and cholesterol levels are species specific. Check source for *Cassia* cinnamon.
- If patients don't care for tea, many of these herbs come in extract pill or powder form.

bag or strain off dried herbs. Drink full cup of tea.

Where do my patients get teas or herbs?

Many herbs, such as ginger root, fennel seed, and rosemary can be commonly found at grocery stores. Many teas are also carried in local grocery stores in bag form, however, the age of these is not always known and some manufacturers put filler into the tea bags. Teas do lose oil concentration as they age, so added age on store shelves will make the tea less effective. Bulk dried herbs or dried whole tea leaves can be found at specialty tea stores or through online distributors. Whole leaves are pure herb and are less processed than herbal

tea bags, so the plant oils are better preserved. Therefore, you obtain a more concentrated tea with no filler.

Some retailers are listed below.

- Community Pharmacy (Madison, WI)
- Whole Foods Markets
- Penzey's Spices (cinnamon especially)
- The Herbalist (teas and bulk herbs)
www.theherbalist.com

How long will tea last?

The shelf life of tea depends both on the extent that the herb is crushed and the way in which the herb is stored. The more an herb is cut up or crushed, the less the shelf-life because it will lose oil faster (due to increased exposed surface area). Tea that is stored in air-tight containers (metal or glass canisters) will last longer than tea stored in bags. Even though the flavor of the tea is preserved for extended amounts of time, the medicinal properties are based on the oil, which decreases in concentration with age. Therefore, the recommended ranges below are for optimal tea oil concentration and medicinal properties:

- Crushed tea stored in bags is best if used within a few months.
- Herb shelf life is extended if herbs are stored whole and crushed just prior to tea preparation.
- Tea or herbs stored in an airtight container are best if used within a year.

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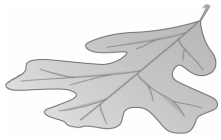
Herb	1) Chamomile ³⁻⁶	2) Cinnamon ⁶⁻⁸	3) Fennel ^{6, 9-11}
Medicinal Use	<ul style="list-style-type: none"> • GI: relieves intestinal cramps, nausea, vomiting, GERD, ulcers, diarrhea • Anxiolytic • Sedative • Infant colic 	<ul style="list-style-type: none"> • Metabolic effects : lowers blood glucose, LDL, cholesterol, and TG • GI: flatulence, appetite stimulant, diarrhea, 	<ul style="list-style-type: none"> • Dysmenorrhea • Infant colic • Upper respiratory infections, cough, bronchitis • GI: dyspepsia, flatulence, bloating, appetite stimulant
Level of Evidence ¹²	C B [†] : Childhood acute diarrhea and colic	B: Metabolic syndrome C: GI disturbances	C B: dysmenorrhea and infant colic
Safety ^{6‡}	Possibly safe P/L: likely unsafe (Roman subtype possible abortifacient)	Possibly safe P/L: likely unsafe	Possibly safe P/L: insufficient information
Potential Side Effects	Allergic reaction Contact dermatitis Vomiting	Lowers blood glucose Allergic reaction	Allergic reaction Photosensitivity Seizures
Potential Drug-Herb Interactions ^{6, 13}	Benzodiazepines, contraceptive drugs, estrogens, tamoxifen, alcohol Possible [§] : Warfarin, aspirin, NSAIDs, Tylenol, opioid	Antidiabetes medications, tetracyclines Possible [§] : Warfarin	Contraceptive drugs, estrogens, tamoxifen, ciprofloxacin
Suggested Dosing	Infusion: 1.5 to 5 tsp dried flower heads in 1 cup water for 5-10 min. Drink 1 cup tea TID. Children: 0.25tsp/lb/day not to exceed adult dose.	Infusion: 0.5 to 3 tsp cinnamon bark in 1 cup water for 5 min. Drink 1 cup tea daily. (may steep black teabag with bark for flavor if desired)	Infusion: 1.5 to 4 tsp crushed fruit or seed in 1 cup water. Take 1 cup tea TID. Children: 0.04tsp/lb/day not to exceed adult dose.

* These properties were evaluated specifically for the Cassia cinnamon species; check source species before recommending.

† These studies looked at both pure chamomile and combined herbal mixtures for childhood acute diarrhea and infant colic.

‡ Safety ratings: P/L stands for pregnancy and lactation. Possibly safe means GRAS (generally recommended as safe) in food quantities and possibly safe at medicinal concentrations. Possibly safe is listed due to lack of scientific research about long-term safety in medicinal quantities.

§ Possible interactions based on herb mechanism of action (not generally observed in studies). Monitor patients closely.



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Herb	4) Ginger ^{6, 14-18}	5) Lemon Balm ^{6, 11, 19-21}	6) Motherwort ^{6, 11, 13}
Medicinal Use	<ul style="list-style-type: none"> • Morning sickness • Post-op nausea and vomiting prevention • Arthritis • Migraine • Childhood diarrhea 	<ul style="list-style-type: none"> • Sleep disorders (may combine with valerian)** • Anxiety/restlessness • Cold sores (apply steeped tea bag to sores) 	<ul style="list-style-type: none"> • Amenorrhea • Hyperthyroidism • Cardiac insufficiency, tachycardia, arrhythmias^{††}
Level of Evidence ¹²	B: Morning sickness and post-op nausea C: Migraine, Arthritis, Diarrhea	B: Sleep and Anxiety C: Cold sores	C
Safety ^{6‡}	Likely safe P: possibly safe ^{‡‡} L: insufficient information	Possibly safe P/L: Insufficient information	Possibly safe P: Likely unsafe L: insufficient information
Potential Side Effects	Heartburn, abdominal pain, allergic reaction, sedation, arrhythmia	Allergic reaction, contact dermatitis, nausea, vomiting, abdominal pain, dizziness, wheezing, palpitations, headache	Diarrhea, stomach irritation, uterine bleeding Allergic reactions
Potential Drug-Herb Interactions	Possible [§] : NSAIDs, aspirin, CCBs, antidiabetes medicines, warfarin (although recent study showed no change in coags ²²)	CNS depressants, Alcohol Possible [§] : SSRIs Use with caution in patients with Grave's or glaucoma.	Do NOT use with digitalis. CNS depressants Possible [§] : aspirin, NSAIDs, Tylenol, Warfarin
Suggested Dosing	Infusion: 1 tsp root in 1 cup water, take TID. Migraine: 1 tsp at start of headache, repeat in 4 hr (max 4 tsp/24 hr) Post-op: take 1.5 to 3 tsp 1 hour before surgery ^{§§} . Childhood diarrhea: piece of ginger root the size of child's little finger steeped for 5-10min	Infusion: 2 to 4 tsp leaf in 1 cup water for 5-10 min. Sleep aid: Drink before bed. Anxiety: Drink 1 cup tea BID-TID.	Infusion: 2 to 3 tsp dried stems, leaves, flowers in 1 cup water for 5-10 min. Drink 1 cup tea TID.

** For children, evidence that 160mg valerian extract and 80mg lemon balm extract effective for restlessness (not tea prep).

†† Not intended for primary therapy.

‡ Safety ratings: P/L stands for pregnancy and lactation. Possibly safe means GRAS (generally recommended as safe) in food quantities and possibly safe at medicinal concentrations. Possibly safe is listed due to lack of scientific research about long-term safety in medicinal quantities.

§ Possible interactions based on herb mechanism of action (not generally observed in studies). Monitor patients closely.

‡‡ A review of ginger use in pregnancy found it safe in multiple randomized controlled trials (reference 15).

§§ Pill form is likely preferred for many pre-operative patients. Dose of 1g taken 1 hour before surgery is recommended.



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Herb	7) Nettle (Stinging) ^{6, 11, 23-25}	8) Peppermint ^{6, 11, 26, 27}	9) Rosemary ^{6, 11, 28}	10) Valerian ^{3, 6, 13, 19, 29-32}
Medicinal Use	<ul style="list-style-type: none"> Benign Prostatic Hypertrophy Diuretic 	<ul style="list-style-type: none"> Digestive problems Irritable Bowel Syndrome Tension Headache 	<ul style="list-style-type: none"> Dyspepsia Liver and gall bladder complaints Cough and asthma 	<ul style="list-style-type: none"> Sleep aid^{†††} (can be used in combination with lemon balm)^{‡‡} Anxiolytic
Level of Evidence ¹²	B	C B: IBS and tablets	C	B
Safety ^{6‡}	Possibly safe P: Likely unsafe L: insufficient information	Possibly safe P/L: Insufficient information	Possibly safe P: Avoid using L: insufficient information	Possibly safe P/L: Likely unsafe, do not use
Potential Side Effects	GI complaints, sweating, contact dermatitis, diarrhea, edema	Heartburn, nausea, vomiting, headache, flushing, allergic reactions	[Large amounts]: vomiting, gastroenteritis, uterine bleeding, pulmonary edema	Headache, 'vivid dreams', palpitations, insomnia (seen more with long-term use)
Potential Drug-Herb Interactions	CNS depressants, Warfarin Caution in patients with kidney dysfunction Possible [§] : Antidiabetes and antihypertensive medicines.	Cyclosporine Possible [§] : drugs that use P450 metabolic pathway	Do not use in patients with seizure disorders.	Opioids, barbituates Possible [§] : Alcohol, benzodiazepines
Suggested Dosing	Infusion: 2.5 tsp dried root in 1 cup water for 5-10min. Drink 1 cup tea BID-TID.	Infusion: 1 to 2 tsp dried leaves in 1 cup water for 5 minutes. (for IBS, consider tablets, 200mg TID)	Infusion: 2 to 3 tsp crushed leaves in 1 cup water for 5-10 min. Drink 1 cup tea TID.	Infusion: 0.5 to 1 tsp dried root in 1 cup water. Sleep aid: Drink 1 cup tea before bed. Anxiety: Drink 1 cup tea TID.

*** Enteric coated peppermint extract pills are better tolerated and recommended instead of tea in IBS patients (200mg TID).

‡ Safety ratings: P/L stands for pregnancy and lactation. Possibly safe means GRAS (generally recommended as safe) in food quantities and possibly safe at medicinal concentrations. Possibly safe is listed due to lack of scientific research about long-term safety in medicinal quantities.

§ Possible interactions based on herb mechanism of action (not generally observed in studies). Monitor patients closely.

‡‡ For children, evidence that 160mg valerian extract and 80mg lemon balm extract effective for restlessness (not tea prep).

††† It may take 2-4 weeks before effects of valerian on sleep are observed. Not intended for short term therapy.



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