





# Medicinal Herbal Teas

*Scientific research on the health benefits of herbal teas is slowly catching up with their growing popularity.*

By Marsha McCulloch, MS, RD, LD, LN

**T**raditional tea from the *Camellia sinensis* plant, such as black tea and green tea, has long been popular in the United States and is the leader in tea sales in the country. However, Americans' interest in herbal teas, often called tisanes (pronounced tea-ZAHNs) in Europe, is on the rise. According to a tea market report from the American Botanical Council, US sales are rising for almost every type of tea and herbal tea. Herbal tea bags and medicinal tea bags rank the fourth and fifth highest in US retail tea sales, respectively.<sup>1</sup> A big factor driving this interest is that people are looking for affordable, safe ways to enhance their personal wellness.

Natural foods stores offer a wide variety of herbal teas, but many are available in mainstream supermarkets, too. Top-selling medicinal, also called functional, tea brands include Traditional Medicinals, Celestial Seasonings, Yogi Tea, Organic India, Bigelow, and Stash Tea.<sup>1</sup> Although black tea bags rank first in US tea sales in supermarkets, medicinal teas lead tea sales in natural foods stores.<sup>1</sup> These medicinal teas contain herbal ingredients that are used as the basis for claims such as immune support, stress regulation, and digestive

support.<sup>1</sup> Given the many health-related claims made for herbal teas, it's important for dietitians to be familiar with the scientific evidence behind them.

## Understanding the Claims

Do the claims on herbal tea boxes hold up against scientific scrutiny? "Unfortunately, a lot of them don't," says Diane McKay, PhD, an assistant professor and director of the graduate certificate program in the Friedman School of Nutrition Science and Policy at Tufts University in Boston. "A lot of what we know about herbal tea is through folklore or traditional medicine and animal studies." McKay has published scientific reviews of herbal teas and led a clinical trial on hibiscus tea, as described on page 38.

"Herbal tea companies typically use structure-function claims, which are statements about the general relationship between the ingredients in the tea and their function in the body," McKay says. Examples include "supports digestion," "supports immune function," or "supports cardiovascular health." That's different from a health claim, such as "lowers cholesterol" or "lowers blood pressure," which links an ingredient to improving a specific disease condition and requires

# Getting the Most From Herbal Teas

Share the following tips with clients who have questions about herbal teas.

**Consider the quality.** How does the tea look, taste, and smell? For example, if you have peppermint leaf tea and you see several pieces from the stem rather than the leaves, it's considered to be of lesser quality, says Stefan Gafner, PhD, a pharmacist and chief science officer at the American Botanical Council.

**Understand dose.** Gafner says that a tea bag typically contains 1½ to 2 g of the herb, which generally is appropriate for 1 cup of tea. This is helpful to know if a clinical trial or other reference specifies the amount of an herb to use for a certain benefit. For loose-leaf tea, 1 teaspoon, which generally is 0.6 to 1 g (varying depending on the herb), is a good amount—but crush the herbs before brewing. If using fresh herbs, 1 tablespoon per cup usually is recommended.

**Consider the cut.** The finer the herbal product is ground or cut, the greater the surface area and the better you'll be able to extract the beneficial compounds, says Winston Craig, PhD, MPH, RDN, professor emeritus of nutrition at Andrews University in

Berrien Springs, Michigan, and author of *Herbs for Your Health: A Guide to the Therapeutic Use of 45 Commonly Used Herbs*, 2<sup>nd</sup> ed. A tea bag typically contains finely cut herbs.

**Set a timer.** In general, pour boiled water over the herbs or herb tea bag, cover, and steep 5 to 10 minutes, stirring occasionally. Then remove the bag or strain to eliminate loose herbs, Gafner says. The longer you steep herbs, the more components are extracted and the stronger the flavor. However, the best way to prepare a tea will depend on the herb, and such details can be found in references such as *Herbal Drugs and Phytopharmaceuticals: A Handbook for Practice on a Scientific Basis*, 3<sup>rd</sup> ed.

**Preserve aromatic oils.** If a tea, such as holy basil or peppermint, contains aromatics, covering the tea during steeping helps to keep these volatile oils (essential oils) in the tea—otherwise they'll evaporate, says Mary Bove, ND, a medical educator at Gaia Herbs in Brevard, North Carolina.

**Try a cold brew.** A cold brew (placing loose tea or tea bags in cold water and refrigerating for several hours or overnight) is good for certain demulcent

(gooey or viscous) herbal teas, such as licorice root or marshmallow root, or teas with stronger-tasting compounds you want to avoid, Bove says.

**Store tea properly.** Keep herbs in a cool, dry cupboard. Exposure to air, light, and heat can break down beneficial components, Bove says. Tea bags that are individually wrapped have more protection from these elements.

**Be mindful of shelf-life.** The active components in tea don't last forever. You make a trade-off with finely cut tea, such as might be found in a tea bag; the components don't last as long on your shelf as larger pieces of loose tea, Bove says. Generally, a cut herbal tea with volatile oils has a shelf-life of one year, while a cut herbal tea without volatile components has a shelf-life of three years.

**Check the date.** Prepackaged teas should have an expiration date on them. If you're counting on receiving a certain health benefit, a tea that's been stored too long may not provide the expected effect, Bove says.

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substantial scientific evidence, including at least a couple of large randomized controlled trials, she explains.

The catch-22 is that large, well-controlled clinical trials cost a great deal of money, which small tea companies don't have, and even large tea companies may not see the payoff from investing in such research, McKay says.

Tea companies may use smaller human trials as the basis for structure-function claims. In addition, some research support for structure-function claims on herbal teas may be based on studies of an extract or supplement, rather than a tea preparation, says Mary Bove, ND, a medical educator at Gaia Herbs in Brevard, North Carolina. "Although many herbal teas have been shown to have positive health benefits, this type of herbal preparation generally has milder effects than an herbal extract or concentrated powder or capsule," she says. So, you can't assume an herbal tea will have the same impact as a more concentrated herbal supplement.

Over the past decade, research on herbs used as teas has been slowly growing. *Today's Dietitian* reviews a sampling of popular herbal teas and the scientific evidence for some of their claims.

## Hibiscus Tea

With a tart flavor and red color, hibiscus (*Hibiscus sabdariffa* L.) is popular in fruity herbal tea blends.<sup>2</sup> Some tea companies promote hibiscus for supporting the cardiovascular system, but there's more than folk medicine to support this claim. In vitro studies have shown that hibiscus, which is rich in flavonoids, has antioxidant properties, and animal studies have suggested hibiscus may help lower cholesterol and blood pressure (in part by helping to relax blood vessels).<sup>3,4</sup>

In 2010, McKay and her colleagues at the Antioxidants Research Laboratory at Tufts University in Boston published the first double-blind, placebo-controlled clinical trial on hibiscus and blood pressure in the *Journal of Nutrition*. The study

showed that drinking three 240-mL (8-oz) mugs of hibiscus tea for six weeks lowered systolic blood pressure 7.2 mm Hg, while those who drank a placebo beverage similar in color and flavor had only a 1.3 mm Hg drop in systolic pressure. Sixty-five pre- and mildly hypertensive adults aged 30 to 70 participated in the trial.<sup>5</sup> Those who had higher systolic blood pressure at the start of the study (120 to 150 mm Hg) had the most impressive results from drinking hibiscus tea, dropping systolic blood pressure by 13.2 mm Hg.

"We wanted to find out if a reasonable amount of hibiscus tea—an amount consumers would be willing to drink daily—would have an effect on blood pressure," McKay says. "We used hibiscus tea like you'd buy off the shelf and asked participants to brew one bag (containing 1.25 g hibiscus) for six minutes in boiled water, which they could then drink hot or cold. That's a reasonable addition to a healthful lifestyle." The blood pressure-lowering effects they found were similar to those reported in large dietary interventions to lower blood pressure, including the DASH (Dietary Approaches to Stop Hypertension) diet.

### Chamomile Tea

Chamomile has been ranked as the top-selling herbal ingredient in herb tea bags.<sup>1</sup> Many people reach for chamomile tea (*Matricaria recutita* L. or German chamomile) because it's viewed in folklore as relaxing and helpful in promoting sleep. It's not uncommon to find chamomile tea boxes stating that the tea calms the nervous system—but human studies showing such a benefit are sparse.<sup>6</sup>

One of the few studies on chamomile suggesting a relaxation benefit was published in the February 2016 issue of the *Journal of Advanced Nursing*. In this study, 80 women who recently had a baby were either instructed to drink chamomile tea or receive regular postpartum care for two weeks.<sup>7</sup> Those who drank chamomile tea did report significantly fewer symptoms of poor sleep quality and depression.

Stefan Gafner, PhD, a pharmacist and chief science officer at the American Botanical Council, reaches for chamomile tea for digestive upset or to soothe skin wounds (by applying the liquid tea or the tea bag externally). He explains that these indications are suggested in *Herbal Drugs and Phytopharmaceuticals: A Handbook for Practice on a Scientific Basis*, 3<sup>rd</sup> edition, by Max Wichtl (ed), which is a well-respected, comprehensive reference book originally published in the German language and found in pharmacies in German-speaking countries. The book also provides details on the phytochemical constituents of herbs, contraindications for using each herb, possible side effects, and medication interactions.

### Mint Tea

Mint ranks as the second top-selling herbal ingredient in herb tea bags.<sup>1</sup> Peppermint (*Mentha piperita* L.) is commonly found in herbal tea formulations promoted for digestive health.<sup>2</sup> In Germany, peppermint leaf is licensed for use as a medicinal tea for indigestion (dyspepsia).<sup>8</sup> However, it should be noted that peppermint therapy may be contraindicated in people with a history of acid reflux, hiatal hernia, or kidney stones.<sup>8</sup>

McKay and Jeffrey Blumberg, PhD, at Tufts University, published a scientific review of the potential health benefits of peppermint tea, including its digestive system effects.<sup>8</sup> They reported that animal studies have shown a relaxation effect on gastrointestinal tissues.<sup>8</sup> They also found that a systematic review of studies on the use of herbal products in the treatment of dyspepsia reported that the effects of peppermint were similar or even greater in magnitude than conventional therapies. Peppermint oil also has evidence in adults and children showing benefits for irritable bowel syndrome.<sup>8</sup> However, no human clinical trials of peppermint tea on digestive health are available.

### Elderberry Tea

Ranking as the 10th top-selling herbal ingredient in tea bags is elderberry (*Sambucus nigra* L.), a tea popular during cold and flu season.<sup>1</sup> Immune-supporting tea blends commonly contain elderberries. "Elderberries are high in flavonoids, which is what gives them their blue-purple color and gives them strong antioxidant and immune-enhancing properties," Bove says.

Elderberry stops the flu virus from adhering to cell walls in the body so it can't replicate, Bove explains. Research support for the immune benefits of elderberry against influenza, however, is based on elderberry extract, rather than the tea.<sup>9,10</sup> So it's uncertain how much tea it would take to get the same benefits.

### Beware of Contaminants

"A lot of herbal tea ingredients are grown outside the United States, where there may be less control over pesticides and soil



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## Resources for Information on Herbal Tea

**American Botanical Council**

<http://abc.herbalgram.org>

**American Herbal Pharmacopoeia**

[www.herbal-ahp.org](http://www.herbal-ahp.org)

**American Herbalists Guild**

[www.americanherbalistsguild.com](http://www.americanherbalistsguild.com)

***Herbal Drugs and Phytopharmaceuticals: A Handbook for Practice on a Scientific Basis, 3<sup>rd</sup> ed, by Max Wichtl (ed)***

[www.crcpress.com](http://www.crcpress.com)

***Herbs for Your Health: A Guide to the Therapeutic Use of 45 Commonly Used Herbs, 2<sup>nd</sup> ed, by Winston J Craig, PhD, RDN*** <http://vegetarian-nutrition.info/product/herbs-for-your-health-2nd-edition>

**Natural Medicines Database**

<https://naturalmedicines.therapeuticresearch.com>. Free access is available for members of the Dietitians in Integrative and Functional Medicine Dietetic Practice Group.

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contaminants such as arsenic, cadmium, and lead, so pay attention to the tea source,” McKay says. “Larger, reputable tea companies, including in the United States, do take care to analyze for contaminants. Check tea company websites, and if contaminant analyses aren’t posted, ask the company for that information.”

Although the FDA is responsible for enforcing Environmental Protection Agency tolerances for pesticides in imported foods, the FDA doesn’t have the resources to inspect and test for residues in all imported items. Instead, it targets imports that are at higher risk of unacceptable levels of pesticide residues. Tea is one of the categories at high risk.<sup>11</sup> Even so, the FDA can’t test all of it.

If a tea company can’t verify that pesticides aren’t present at harmful levels, don’t buy its tea products. When available, organic tea is a good option and should be free of pesticides, Bove says. Alternatively, if you grow your own herbs, which is simple to do for herbs such as peppermint or chamomile, pesticides can easily be avoided.

### Herbal Tea Safety

“The effects of herbal tea are usually mild,” Gafner says. “However, that doesn’t mean you should drink a half gallon a day. Depending on what you’re using it for, two to four cups a day is generally reasonable.”

People should tell their health care providers what herbs and herbal teas they’re using since some can affect the activity of certain medications, says Winston Craig, PhD, MPH, RDN, professor emeritus of nutrition at Andrews University in Berrien Springs, Michigan, and author of *Herbs for Your Health: A Guide to the Therapeutic Use of 45 Commonly Used Herbs*, 2<sup>nd</sup> ed. “Some herbs can enhance the activity of medications, while others can diminish the activity,” he says. “Herbal product use also should be reported if planning surgery because some herbs act as anti-clotting agents.”<sup>12</sup>

Furthermore, herbal teas should be used with caution during pregnancy and lactation, and with small children, Craig says. For example, pregnant or nursing mothers shouldn’t use cat’s claw, an herb available as a tea, due to its contraceptive properties. It also may not be safe for young children.<sup>13</sup> These groups also should be especially wary of lead contamination in tea and seek information from tea companies to find out what kind of heavy metal testing they do.<sup>14</sup>

### Plant-Based Enjoyment

“Herbal tea is virtually calorie-free and can help you meet your daily hydration needs,” McKay says. “Plus, herbal teas supply phytochemicals, so they’re a good way to round out your daily intake of these important plant compounds.” In addition to flavonoids, the herbs used to make teas contain a wide variety of other active phytochemicals in substantial amounts, such as anthocyanins, ellagic acid, and polyphenols, which may provide health-promoting antioxidants in addition to other benefits documented for specific herbal teas.<sup>15,16</sup>

Even if an herbal tea doesn’t have enough research to boast a specific claim, that shouldn’t stop clients from enjoying it if they like the taste. It’s also important to keep in mind that even if an

herbal tea doesn’t appear to provide a certain benefit evaluated in a clinical trial, it may offer other benefits that simply weren’t tested in the study.<sup>17</sup>

Finally, dietitians shouldn’t overlook the simple pleasures that many people get from drinking a cup of tea. “Part of the joy of drinking herbal tea is just taking five minutes to sit down and treat yourself,” Gafner says.

— Marsha McCulloch, MS, RD, LD, LN, is a nutrition writer and consultant in South Dakota.



For references, view this article on our website at [www.TodaysDietitian.com](http://www.TodaysDietitian.com).