Licorice (*Glycyrrhiza glabra*, *Glycyrrhiza uralensis*)

**Parts used and where grown:** Originally from central Europe, licorice now grows all across Europe and Asia. The root is used medicinally.

**Historical or traditional use** (may or may not be supported by scientific studies): Licorice has a long and highly varied record of uses. It was and remains one of the most important herbs in traditional Chinese medicine. Among the most consistent and important uses are as a demulcent (soothing, coating agent) in the digestive and urinary tracts, to help with coughs, to soothe sore throats, and as a flavoring. It has also been used to treat conditions ranging from diabetes to tuberculosis.

**Active constituents:** The two most important constituents of licorice are glycyrrhizin and flavonoids. Glycyrrhizin breaks down to glycyrrhizic or glycyrrhetinic acid; glycyrrhizin is an anti-inflammatory and inhibits the breakdown of the cortisol produced by the body.1 2 It also has antiviral properties. Licorice flavonoids, as well as the closely related chalcones, help digestive tract cells heal. They are also potent antioxidants and work to protect the cells of the liver. In test tubes, the flavonoids have been shown to kill *Helicobacter pylori*, the bacteria that causes most ulcers and stomach inflammation.3
A single blind study found that while the acid-blocking drug cimetidine (Tagamet) led to quicker symptom relief, chewable deglycyrrhinized licorice (DGL) tablets (see How much is usually taken? below for an explanation of DGL) were just as effective at healing stomach ulcers and keeping them healed. Chewable DGL is also helpful in treating ulcers of the duodenum, the first part of the small intestine. Capsules of DGL may not work for ulcers; apparently DGL must mix with saliva to be activated. One preliminary human study has found DGL helpful for canker sores as well.

While DGL has not been studied on its own in people with heartburn, a very similar drug known as carbenoxolone has shown benefit when combined with antacids. Studies are needed to determine if DGL helps those with heartburn.

People with eczema improved with application of ointment with pure glycyrrhetinic acid, which was as effective as hydrocortisone, according to one clinical study. The herpes virus is inhibited by glycyrrhizic acid in test tubes, and though many people use licorice extracts topically for herpes, controlled studies have not evaluated how effective these extracts are.

Viral hepatitis is frequently treated with injections of glycyrrhizic acid in Japan, and many studies have shown this to be effective. However, the side effects are potentially severe. Whether orally administered licorice helps in other types of viral hepatitis has not been rigorously studied. HIV infection has also only been treated
with injectable licorice compounds. The usefulness of oral licorice is unknown.

**How much is usually taken?** There are two types of licorice, “standard” licorice and “deglycyrrinized” licorice (DGL). Each type is suitable for different conditions. For respiratory infections, chronic fatigue syndrome, or herpes (topical), the standard licorice containing glycyrrhizin should be used. Licorice root capsules can be used in the amount of 5–6 grams per day. Concentrated extracts may be used in the amount of 250–500 mg three times per day. Alternatively, a tea can be made by boiling 1/2 ounce of root in 1 pint of water for fifteen minutes, drinking two to three cups of this per day. Long-term (more than two to three weeks) internal use of high doses of glycyrrhizin-containing products should be attempted with caution and under the supervision of a nutritionally oriented doctor. Licorice creams or gels can be applied directly to herpes sores three to four times per day.

DGL is prepared without the glycyrrhizin in order to circumvent potential safety problems, as explained below, and is used for conditions of the digestive tract, such as ulcers. For best results, one 200–300 mg tablet is chewed three times per day before meals and before bed. For mouth ulcers, 200 mg of DGL powder can be mixed with 200 ml warm water, swished in the mouth for three minutes, and then spit out. Licorice may also be taken as a tincture in the amount of 2–5 ml, three times daily.
Are there any side effects or interactions? Licorice products that include glycyrrhizin may increase blood pressure and cause water retention. Some people are more sensitive to this effect than others. Long-term (more than two to three weeks) intake of products containing more than 1 gram of glycyrrhizin (the amount in approximately 10 grams of root) daily is the usual amount required to cause these effects. As a result of these possible side effects, long-term intake of high levels of glycyrrhizin is discouraged and should only be undertaken if prescribed by a qualified healthcare professional. According to the German Commission E monograph, licorice is contraindicated in pregnant women as well as in people with liver and kidney disorders.

Deglycyrrhizinated licorice extracts do not cause these side effects because there is no glycyrrhizin in them.

References: