

The Longwood Herbal Task Force
(<http://www.mcp.edu/herbal/default.htm>) and
The Center for Holistic Pediatric Education and Research
Slippery Elm (*Ulmus rubra* or *U. fulva*)
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Overview

Slippery elm bark has been used historically as a demulcent, emollient and vulnerary; it is currently included as one of four ingredients in the herbal cancer remedy, Essiac. There are no scientific studies evaluating the common uses of this herb, but due to its high mucilage content, slippery elm bark is probably a safe herbal remedy to treat irritations of the skin and mucus membranes. It has no known toxicity with typical dosing, although allergic reactions to natural substances are always possible.

Historical and Popular Uses

The slippery elm tree's dried inner bark has been used by Native American healers for centuries. The bark, collected in the spring, yields a thick, gooey mucilage used to treat urinary tract inflammation, cold sores, boils, and irritated skin and mucus membranes¹. Poultices made from slippery elm bark were placed on bruises and black eyes and were recommended to help heal minor burns and abrasions. Ground bark was added to milk as a nutrient for infants and invalids². From 1820 to 1960, elm bark was listed in the US Pharmacopeia as a demulcent, emollient and antitussive^{3,4}.

Nowadays, the powdered bark is included in herbal teas and throat lozenges to soothe throat irritation; it is also an ingredient in herbal emollients and antitussives⁵. Some herbalists recommend slippery elm bark topically to treat diaper rash and other skin lesions and internally to treat gastritis and ulcers^{6,7}. It is also one of the four ingredients in the herbal cancer remedy, Essiac.

Botany

Medicinal species: *Ulmus rubra* or *U. fulva*

Common names: Slippery elm, sweet elm, red elm, moose elm, rock elm, and Indian elm

Botanical family: Ulmaceae

Plant description: Slippery elm trees can grow up to 20 meters tall. The trees have spreading branches and an open crown. The young branches are orange to reddish brown. The bark is deeply fissured. The dark green leaves are 10 – 20 cm long with serrated edges.

Supplies have dwindled due to devastation by Dutch elm disease⁸. Slippery elm is easily mistaken for other elms.

Where it's grown: Slippery elm is native to northeastern North America, including Canada and the United States. It prefers to grow in moist woodlands.

Biochemistry

Slippery Elm Bark: Active Chemical Constituents

- Mucilage: hexoses, pentoses, methylpentoses, polyuronides⁹
- Other: tannins (3%), calcium oxalate, phytosterols, sesquiterpenes, flavonoids, salicylic acid (0.002%)¹⁰, capric acid, caprylic acid, decanoic acid³

The *mucilage* in slippery elm bark is a demulcent and emollient. *Tannins* are typically used as astringents to treat weeping skin lesions, diarrhea or bleeding. The level of *salicylic acid* is probably too low to be clinically meaningful.

Experimental Studies

Slippery Elm Bark: Potential Clinical Benefits

1. Cardiovascular: none
2. Pulmonary: none
3. Renal and electrolyte balance: none
4. Gastrointestinal/hepatic: Gastric and duodenal ulcers
5. Neuropsychiatric: none
6. Endocrine: none
7. Hematologic: none
8. Rheumatologic: none
9. Reproductive: none
10. Immune modulation: none
11. Antimicrobial: none
12. Antineoplastic: Part of Essiac cancer remedy
13. Antioxidant: none
14. Skin and mucus membranes: Demulcent, emollient, vulnerary
15. Other/miscellaneous: none

1. **Cardiovascular:** none
2. **Pulmonary:** none
3. **Renal and electrolyte balance:** none
4. **Gastrointestinal/hepatic:** Gastric and duodenal ulcers: Despite long-standing traditional use to treat gastric and duodenal ulcers and other GI irritations, there are no *in vitro*, animal or human data evaluating these effects.
5. **Neuropsychiatric:** none
6. **Endocrine:** none
7. **Hematologic:** none
8. **Rheumatologic:** none
9. **Reproductive:** none
10. **Immune modulation:** none
11. **Antimicrobial:** none

12. **Antineoplastic:** Part of Essiac cancer remedy: There are no *in vitro*, animal or human data evaluating antineoplastic effects.
13. **Antioxidant:** none
14. **Skin and mucus membranes:** Demulcent, emollient, vulnerary: Despite long-standing traditional use, there are no *in vitro*, animal or human data evaluating these effects.
15. **Other/miscellaneous:** none

Toxicity and Contraindications

All herbal products carry the potential for contamination with other herbal products, pesticides, herbicides, heavy metals and/or pharmaceuticals.

Furthermore, allergic reactions can occur to any natural product in sensitive persons.

Allergic reaction with urticaria has been reported¹¹; some persons have aero-allergic or contact sensitivity to elm tree pollen, but the frequency of allergic reactions to medicinal use of elm bark products is extremely rare.

Potentially toxic compounds in slippery elm bark: None known; tannins and calcium oxalate are present in such low quantities that they pose a risk only with severe overdoses.

Acute toxicity: None known

Chronic toxicity: None known

Limitations during other illnesses or in patients with specific organ dysfunction: None known

Interactions with other herbs or pharmaceuticals: Could theoretically slow or decrease absorption of other oral medications due to hydrocolloidal fibers¹²; no actual interactions have been reported.

Safety during pregnancy, lactation and/or childhood: No reported or theoretical risks.

Typical dosages

Provision of dosage information does not constitute a recommendation or endorsement, but rather indicates the range of doses commonly used in herbal practice.

Doses are given for single herb use and must be adjusted when using herbs in combinations.

Doses may also vary according to the type and severity of the condition treated and individual patient conditions.

Typical adult doses:

Powdered bark mixed 1:8 with water as a decoction (eg. 4-5 grams [about 1 tsp.] mixed in 500 ml boiling water) . The usual dose is 4 –15 ml (1 tsp. – 1 TBL) po TID.

Liquid extract: 1:1 in 60% alcohol; typical dose is 5 ml TID.

Availability of standardized preparations: None

Dosages used in herbal combinations: Amounts used in Essiac are proprietary secrets.

Pediatric dosages: Unknown

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