



PLS II

Stock #1029-4 (100 capsules)

PLS II provides a unique blend of herbs that soothe inflammation and irritation of the mucous membranes, especially of the gastrointestinal tract. PLS II also contains herbs that enhance digestive function and combat bacteria that can cause gastrointestinal illness. As an additional benefit, the herbs in PLS II are noted for their topical use for healing local irritation and inflammation associated with various skin conditions and minor wounds and abrasions.

Slippery elm (*Ulmus rubra*) is known for its healing effect on irritated or inflamed mucous membranes and is also recognized as a natural remedy for heartburn. Slippery elm contains mucilage, a type of soluble fiber that soothes inflamed tissues on contact, drawing out toxins and irritants and providing protection against further irritation or injury. Slippery elm's high mucilage content also encourages the growth of beneficial intestinal flora and acts as a bulk laxative. The benefits of slippery elm are firmly established in traditional herbal medicine for conditions such as acidity, colic (infant), colitis, Crohn's disease,

diarrhea, diverticulitis, gastroenteritis (inflammation of the lining of the gastrointestinal tract), intestinal colic, irritable bowel syndrome and ulcers. In fact, a European study using inflamed human colorectal biopsies from patients with active ulcerative colitis confirmed slippery elm's antioxidant effects and potential therapeutic benefit for the treatment of inflammatory bowel disease. In addition, individuals with weak or overly-sensitive digestive systems may benefit from slippery elm's nutritive content and its ability to aid problems related to poor digestion and absorption, including allergies, food sensitivities and nutritional deficiencies. Furthermore, slippery elm is commonly recommended as a topical poultice for inflammatory skin conditions, including abscesses, bed sores, boils, burns/scalds, diaper rash, inflamed lesions, skin infections, and ulcers. Slippery elm's demulcent (soothing) mucilage helps relieve painful irritation, itching and inflammation, and acts as an emollient (skin softening agent) to soothe and moisturize skin.¹⁻¹¹

Marshmallow (*Althaea officinalis*) helps soothe and heal inflamed mucous membranes, primarily due to its mucilage content, which coats the mucous membranes of the gastrointestinal tract and provides relief from local irritations, inflammation and pain. Marshmallow has been used for numerous gastrointestinal problems, including constipation, enteritis (inflammation of the small intestine), gastritis (inflammation of the stomach lining), peptic and duodenal ulcers, irritable bowel syndrome and ulcerative colitis. The German Commission E has approved the use of marshmallow for irritation and mild inflammation of the gastric mucosa. In addition, Russian researchers have found that marshmallow stimulates the humoral immune response and phagocytosis (the process by which white blood cells fight infection). New research has also shown that marshmallow affects the microbial metabolism of *Escherichia coli*, thus demonstrating antibacterial activity against this common cause of food-borne illness and other gastrointestinal infections. In addition, marshmallow can be applied topically to soothe and heal minor abrasions, itching and inflammation. The German Commission E has approved the topical use of marshmallow for local irritation, while the *British Herbal Compendium* recommends using marshmallow topically for eczema, dermatitis and boils, due to its anti-inflammatory, emollient and wound-healing properties. Marshmallow is also recommended as a topical antibacterial agent to protect against periodontopathic bacteria—bacteria that can cause diseases of the surrounding tissues and structures supporting the teeth, including bone.^{6-9,12-20}

Golden seal (*Hydrastis canadensis*) has a long history of use for soothing tissue irritation and inflammation caused by allergens or infectious microorganisms. As a bitter tonic, golden seal stimulates digestive secretions and promotes the flow of antibody-laden mucus to fight infection and heal irritated and inflamed gastrointestinal tract tissues. Golden seal is used for gastrointestinal disorders such as gastritis, infectious diarrhea and peptic ulcers. Golden seal also demonstrates diuretic and laxative actions and is regarded as a natural antibiotic, due to active ingredients such as berberine. Berberine enhances bile secretion and exhibits immunostimulant and broad-spectrum antibiotic activity against bacteria, protozoa and fungi. For example, golden seal has been shown to inhibit the growth of *Staphylococcus aureus*, a common cause of food poisoning, as well as *Helicobacter pylori*, which causes acute and chronic gastritis and is associated with peptic ulcer disease and gastric carcinoma (stomach cancer). In addition, topical use of golden seal easily dates back to the Cherokee people who used it for skin problems and arrow wounds and, as an herbal wash, for mouth sores and eye inflammation such as conjunctivitis. Modern herbalists still use golden seal as a mouthwash and externally for burns, eczema, psoriasis and even ringworm. Golden seal is not recommended for use during pregnancy due to possible uterine stimulant activity.^{1,6-9,11,12,14,21-28}

Fenugreek seeds (*Trigonella foenum-graecum*) have been used in Ayurvedic and Chinese medicine and in the Middle East to aid digestion, improve appetite, and relieve gastrointestinal ailments. Fenugreek seeds have been used for numerous gastrointestinal conditions, including anorexia/poor appetite, colitis, constipation, convalescence, Crohn's disease, diarrhea, diverticulosis, dyspepsia, gastric and duodenal ulcers, gastritis, and irritable bowel syndrome. Fenugreek seeds contain mucilaginous fiber, which is primarily responsible for the demulcent properties

that protect the gastrointestinal mucosa. Fenugreek seeds have been shown to enhance pancreatic lipase activity and increase gastrointestinal motility. Fenugreek seeds have also demonstrated analgesic, anti-inflammatory, antiulcer and hepatoprotective (liver-protecting) effects. In addition, animal studies have shown that fenugreek seeds can inhibit colon cancer and reduce the incidence of colon tumors, as well as prevent formation of cholesterol gallstones. Furthermore, fenugreek seeds are approved by the German Commission E for topical application to reduce local inflammation. Fenugreek seeds have been used for numerous external conditions, including boils, burns, eczema, leg ulcers, and wounds, as well as gout, muscle pain and lymphadenitis (inflammation of a lymph node). Research has shown that fenugreek seeds possess antioxidant, anti-inflammatory and emollient properties that help heal and soften skin and provide antiwrinkle effects. Hence, fenugreek can be found in some cosmetic products. Fenugreek seeds may potentiate the action of hypoglycemic drugs, and are not recommended during pregnancy because of possible uterine stimulant effects.^{6-8,12,22,29-40}

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