

Propolis, Herbs, and Essential Oils to Relieve Throat and Upper Respiratory Infections

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Discussion

Propolis, herbal extracts, and essential oils are well-known and revered for their anti-inflammatory and antimicrobial activity. These ingredients also demonstrate the capacity to soothe inflamed membranes and promote healing. When combined into a synergistic blend, these natural compounds provide optimal therapeutic benefits.

Propolis offers multiple antimicrobial benefits. The sticky resin adheres to mucous membranes in the throat, thus delivering the anti-inflammatory action of the herbal compounds precisely where cold and flu viruses take hold and multiply. This helps prolong the local effect of the herbs and the Propolis itself.

While all the herbs outlined below offer potent therapeutic value, there is a lot of research on the combination of Echinacea, Baptisia, and Thuja. These three herbs, powerful on their own, are found to exert an even more powerful immune-stimulating

and immune-modulating influence when combined together. This trio is found to increase phagocytosis, stimulate cytokine production, and to increase lymphocytes.¹

The combination of Echinacea, Baptisia, and Thuja is also found to be antiviral and to exert a beneficial influence on upper respiratory infections. Their use during the early stages of infection is found to decrease duration of illness. They are found to be effective in alleviating symptoms of colds and upper respiratory tract infections and to lessen recovery time by as much as three days over placebo.²⁻⁶ This trio is found to benefit acute and chronic upper respiratory infections and to be beneficial when used as an adjunct in severe bacterial infections including pharyngitis, otitis media, and sinusitis.⁷ The combination of these three herbs is also found to promote tissue healing.¹



Echinacea Root, Leaf, and Seed Extract (*Echinacea angustifolia* and *Echinacea purpurea*)

Echinacea has a long history of medicinal use by both Europeans and Native Americans. The Eclectic Physicians valued it as a blood purifier to treat abscesses, wounds, and insect bites. It was also used for infectious diseases such as scarlet fever and influenza.⁸

Modern research finds that the phenolic compounds in Echinacea offer both antioxidant and free radical scavenging properties.^{9,10} Echinacea stimulates immune response and is immunomodulatory. In 21 studies with over 3500 participants, Echinacea was shown beneficial for cold, flu, and upper respiratory tract infections in all but three studies. The German Commission E approves the internal use of *E. purpurea* as

a supportive therapy for acute and chronic infections of the respiratory tract. It also approves Echinacea for external use for poorly healing wounds and chronic ulcerations.^{1,11}



Propolis Gum Extract

The remarkable bee resin, Propolis, has been used worldwide since antiquity for a wide variety of health benefits. Propolis is a unique, somewhat waxy compound made by bees from plant material they collect and use as a sealant to protect the hive. Propolis is produced by bees from a mixture of wax, pollen, salivary secretions, and plant resins. It provides the bees with excellent building material and exerts natural antimicrobial properties that help prevent infections within the hive.

The color and chemical composition of Propolis varies widely and is influenced by geographical location, the botanical species collected by the bees, and even by the bee species itself. Propolis is found to be high in flavonoids, terpenes, and phenolic acids. The color varies from yellowish green to red or dark brown. The exact profile of compounds determines its more specific biological effects and the benefits of Propolis from diverse geographic areas are widely studied.

Crude Propolis contains around 50% resin, 30% wax, 10% essential and aromatic oils, 5% pollen, and 5% other organic materials such as wood fragments. Over 300 compounds have been found in Propolis including flavonoids, aldehydes, amino acids, ketones, vitamins, and fatty acids. The flavonoids are among the most researched compounds.¹²⁻¹⁵

The word propolis is from Greek origin and means “defender of the city”. The powerful medicinal attributes of Propolis were well-known by the Greeks, Persians, and Romans of ancient times. They valued it as a powerful antiseptic that enhanced wound healing including battle wounds. Due to its antiputrefactive properties, the Egyptians used it for embalming.

In modern times, Propolis is recognized to possess powerful antimicrobial, anti-inflammatory, and immunomodulatory influence. Noted for its regenerative capacity on tissues, Propolis is highly studied for its wound-healing capacity. Studies find it supports re-epithelization of tissues and quenches free radicals in the skin.¹²

Propolis is found to help prevent canker sores and to promote healing of the ulcers after treatment. The antimicrobial action of Propolis is found beneficial when used as a mouth spray or mouthwash to encourage tissue healing after gum surgery or other dental work. Much current research reveals the benefits of Propolis in dentistry where it is found effective both as an antibacterial and also to help address mouth ulcers, gingivitis, and to benefit oral hygiene.¹⁶⁻¹⁸

Propolis is found to be immunostimulatory and immunomodulatory with the ability to reduce inflammatory cytokines and chemokines.¹⁷ It exerts antiseptic, antibacterial, antifungal, astringent, and antiulcer qualities. Studies find Propolis exerts activity against Gram-positive bacteria (such as *Staphylococci* and *Streptococci spp.*), Gram-negative bacteria (such as *Escherichia coli*, *Klebsiella pneumonia* and others), *Helicobacter pylori*, fungi and viruses (including influenza) among others. This ability is largely attributed to its flavonoid content.¹²



Wild Indigo Root (*Baptisia tinctoria*)

Baptisia root is a traditional medicine with a diverse array of benefits. It was primarily valued as an

antiseptic wash for wounds, to calm inflammation, and as a gargle for sore throats. It contains alkaloids and is high in phenolic compounds, flavonoids, glycoproteins, triterpenes, and polysaccharides.

Baptisia contains arabinogalactan-proteins similar to those found in the *Echinacea* species. *Baptisia*'s polysaccharides show significant immunostimulatory effects. Studies find it exerts an anti-inflammatory influence on the mouth, throat, and skin. The effects of *Baptisia* and *Echinacea* together are shown to be more potent than either one alone.¹⁹

Baptisia root, traditionally used to treat a host of infections, exerts immune-enhancing, antibacterial, antiviral, and anti-inflammatory effects. *Baptisia* also stimulates white blood cell production and increases the vitality of tissues.²⁰⁻²² The main compounds found in *Baptisia* include alkaloids, glycosides, glycoproteins, and arabinogalactan-proteins. It is traditionally classified as a lymphatic, antiseptic, immune stimulant, and alterative.^{3,23}



Licorice Root (*Glycyrrhiza glabra*)

Used for thousands of years by herbalists worldwide, Licorice root is renowned for its soothing qualities and ability to calm inflammation anywhere in the body. Licorice is traditionally used to soothe respiratory tissues, calm irritated mucous membranes, and help alleviate bronchitis and coughs. Licorice facilitates the influence of other herbs and enhances the body's vital energy.

Constituents of Licorice include triterpenoid saponins (mainly glycyrrhizin), various polyphenols, polysaccharides, and a small amount of flavonoids. It is a powerful demulcent and can act as an expectorant. It is known to exert anti-inflammatory, antiviral, and antiulcer activity. It is also found to exert antioxidant influence. As an antimicrobial, Licorice is found to exert influence against *Staphylococcus aureus*.²⁴⁻²⁷



Red Root (*Ceanothus americanus*)

Red Root is traditionally used for its action on the blood and lymph systems. It improves the tone and action of these systems, removing dead lymph cells from areas of damaged tissues and helping support healthy blood flow to enhance the healing process. Because of its influence, the Eclectic physicians often combined Red Root with herbs such as *Echinacea* that work more directly on the immune system. Red Root was found to enhance the activity of these herbs.^{8,28,29}

Native American Indians used Red Root to alleviate sore throats, fevers, and catarrh of the mucous membranes. It is found to exert astringent, expectorant, and antispasmodic

activity. A study finds that Red Root exerts antimicrobial activity against specific oral pathogens. This is attributed to the activity of the triterpenes and flavonoids.³⁰

Thuja Leaf (*Thuja occidentalis*)



Thuja, commonly known as *Arbor vitae* or White Cedar, was long used by Native Americans, Canadians, and Europeans. It contains essential oils, polysaccharides, minerals, and monoterpenes. Thuja is found to possess antiviral activity and to stimulate production of cytokines, antibodies, and macrophages as part of the immune response. Thuja has primarily been studied in conjunction with other herbal medicines where it is found to enhance immune response and to benefit respiratory tract infections.⁴

Poke Root (*Phytolacca americana*)



Poke root is one of the most revered herbs of the Eclectic physicians. They used it as a primary alterative herb for the lymphatic-glandular system. Poke root is among the most powerful and active lymphatic remedies in the herbal *materia medica*, acting chiefly on the skin, mucous membranes, and lymph glands. Eclectic physicians used Poke root as the primary herb for inflammation of lymph glands including chronic tonsillar hypertrophy.¹⁻³

They found it beneficial to calm inflammation, calm ulceration of the mucous membranes, and to stimulate immune response. Poke root contains betain-type alkaloids, triterpene saponins, and a number of mitogenic-acting, cysteine-rich glycoprotein lectins.^{8,31-34}

Hyssop Herb (*Hyssopus officinalis*)



Hyssop, a traditional European herb used for respiratory illness and to promote respiratory health, is often included in cough syrups. Modern studies find it contains polyphenolic compounds, including rosmarinic acid, which demonstrate antioxidant and antimicrobial influence. In studies with mice it is found to benefit chronic asthma through its ability to calm and modulate inflammation and cytokine levels.^{35,36}

Barberry Root Bark (*Berberis vulgaris*)



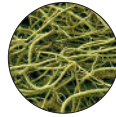
Barberry grows throughout Asia and Europe and is native to southeastern Iran where it is called Zereschk. Throughout the world all parts of the plant are used medicinally to treat and prevent multiple disease conditions including infectious diseases.³⁷⁻⁴⁰ The bark and root is traditionally used for sore throat and

ulcerated gums.⁴⁰ In Ancient Egypt, Barberry and Fennel seeds were combined to ward off serious fevers.³⁸

Barberry is known to possess antipyretic and antimicrobial influence.⁴⁰ Studies find it exerts antibacterial and antiparasitic activity against numerous pathogenic strains. Barberry also exerts antifungal activity against *Candida spp.*³⁷

Barberry's main active constituents are isoquinoline alkaloids, including the potent alkaloid berberine. Berberine is well-known for its antimicrobial, antioxidant, and anti-inflammatory activity.³⁷⁻⁴⁰ Barberry root extracts are found to exert antioxidant activity, which is also attributed to its high flavonoid and phenolic content.³⁸

Usnea Lichen (*Usnea barbata*)



Usnea lichen is known as Old Man's Beard in American herbal traditions where it is valued for its powerful ability to enhance immune function. It grows on many trees in the Southeast and Pacific Northwest of North America. Usnea exerts antibacterial activity and is found to affect *Staphylococcus aureus* through disruption of its cellular membrane. The action of usnic acid in Usnea is found to exert antimicrobial activity against many species including *Staphylococcus aureus* and some of the *Bacillus spp.*^{41,42}

Lomatium Root (*Lomatium dissectum*)



Lomatium, a highly resinous and aromatic root, contains key constituents that function synergistically to support the body's natural resistance to environmental challenges. American herbalists have used Lomatium root for centuries for these very abilities. There are many *Lomatium* species traditionally used for medicinal purposes. *Lomatium dissectum*, known as Desert Parsley, was used by Native Americans to address many types of lung infections. Historically, it is noted that Desert Parsley was used with good effect during the 1917 influenza epidemic. It demonstrates antiviral activity.^{43,44}

Myrrh Gum (*Commiphora spp.*)



Myrrh is a highly renowned medicinal throughout the ancient and modern world. Both Chinese and Ayurvedic medicine value its ability to calm inflammation and move blood stagnation. Myrrh is traditionally used to treat multiple conditions including wounds and infections. It was one of the three gifts offered to the infant Jesus by the Magi and was revered by both ancient Egyptian and Arab physicians. Traditional herbalists value Myrrh for its ability to treat sore throats, canker sores, and gingivitis.^{45,56}

Myrrh contains volatile oils, resin, gum, and a bitter principle. It is well-known for its anti-inflammatory, antibacterial, antioxidant, and antimycobacterial activity.⁴⁵⁻⁴⁷ Myrrh's effective antimicrobial activity is largely attributed to its unique sesquiterpenoids.⁴⁵⁻⁴⁷

Myrrh acts as a local stimulant that promotes healing and offers antiseptic activity. It is widely used for infections in the gums, mouth, and throat and is often included in oral care formulations.⁴⁵⁻⁴⁷



Arnica Flower (*Arnica montana*)

Arnica is well-known for its ability to reduce pain and inflammation. Contemporary studies demonstrate *in vitro* antimicrobial, anti-inflammatory, and respiratory-stimulating influences. The German Commission E approves the external use of Arnica flower for use in inflammation of the oral and throat region.⁴⁸



Peppermint Leaf Essential Oil (*Mentha piperita*)

Peppermint essential oil demonstrates analgesic, antibacterial, and mucolytic actions. It relaxes smooth muscle, catarrh of the respiratory tract, and calms inflammation of the oral mucosa. The essential oil contains menthol, phenolic acids, and is terpene-rich. It

exerts a cooling activity.^{49,50}



Fennel Seed Essential Oil (*Foeniculum vulgare*)

Fennel, native to the Mediterranean region, is well-known and loved throughout the world as a culinary delight and medicinal herb. The seeds are highly valued as a carminative and are used in cough syrups. Fennel oil is found to exert antimicrobial activity and to have a secretolytic action in the respiratory tract.⁵¹



Clove Seed/Bud (*Syzygium aromaticum*)

Clove, a well-known cooking herb, is also a traditional medicinal used to calm inflammation and pain. It exerts antimicrobial, antibacterial, and antifungal activity. Clove essential oils are found to possess significant antimicrobial activity and are reported effective against *Staphylococcus epidermidis*, *Escherichia coli*, and *Candida albicans*, among others. The primary component of Clove is eugenol (about 68%).⁵²

For more information on any of the ingredients listed here, including extensive research or individual monographs compiled by Donnie Yance, please email info@naturaedu.com.

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