

Who hasn't seen our fuzzy friend growing in sandy roadsides all over North America? This world traveler is one plant that truly gets around. The Mulleins are a genus (*Verbascum*) numbering 250 species of flowering plants, native to Europe and Asia, with a diverse assortment around the Mediterranean. They're in the figwort family (*Scrophulariaceae*).

The very popular mullein we find here is *Verbascum thapsus*, which also answers to Great mullein, Common mullein, Jacob's staff and flannel-leaf, and is native to Britain. This old world denizen was imported from very early in the 18th century and cultivated for its medicinal properties. By 1818, it had begun spreading so much that it was essentially seen as a native plant. By 1876, it was in California and it is now widespread in all states, where it prefers sandy scrub soils in wastelands, roadsides and meadows. In a strange twist, Native Americans learned of mullein only from early European settlers and set about using it as a cough remedy.

The ancient Great mullein (Dioscorides recommended it the plant 2000 years ago) has been used as a remedy for skin, throat and breathing disorders with a strong reputation as an astringent and demulcent.

In the body, mullein is attracted to mucous membranes, so it is employed in the respiratory, urinary and digestive systems.

Been mullein over which herb to take for that bronchitis? Like many other cooling green leaves, mullein excels in treating respiratory conditions. Contemporary herbalists recommend hot mullein tea for coughs, and sore throats, and other respiratory irritations, and it is approved in Europe for that use. This sweet, bitter, mucilaginous leaf moistens lung tissue and lends itself to management of dry, harsh, hacking coughs, hoarseness, bronchitis, asthma and hay fever. It's a traditional healing for generally weak lungs, where its demulcent, expectorant, antispasmodic and anti-inflammatory properties come into play. Ayurveda emphasizes it for mumps, earaches, and swollen lymph glands. It makes a great long term lung tissue healer, say for rebuilding an ex-smoker's lungs.

Mullein rarely produces striking effects, but it can soothe a sore throat and bring some temporary relief. Herbalists often say that mullein is most effective when combined with herbs with similar qualities, such as yerba santa leaf and elecampane root.

Mullein leaf is rich in slimy mucilage, which coats the throat, flavonoids, including *acubin*, which resolve inflammation, saponins, which reduce inflammation and, like detergent, draw fluid from tissues, thinning mucus in wet cough and volatile oils that open breathing. The astringency seems to be from the *acubin*, which reduces copious mucous production in pulmonary congestion and asthma. Mullein also helps asthma when combined with lobelia to reduce spasm.

Recent studies have found potent antioxidant and free radical scavenging activity in mullein.^{i ii}

This soothing, cooling herb also has an affinity for the bladder. In urinary tract infection, the volatile oils are antimicrobial and the anti-inflammatory aspects reduce irritation. Think about mullein for interstitial cystitis, too. Also expect mullein to soothe colic and moisturize and release stubborn chronic constipation.

Look to the business end of a mullein leaf to treat muscle spasms, painful joints, hemorrhoids, skin rashes, frostbite and eczema when applied topically as a vulnerary. The emollient leaves, raw or steamed, bring relief and speed healing when applied to trouble spots.

Our fuzzy friend is sought out for nerve conditions. Internally, the leaves are consumed, but the nerve nourishing flowers are particularly sedative, anti-spasmodic and pain relieving. The oil or compress is applied for facial neuralgia.

Mullein has a long history as an ear oil for otitis media, usually infused into a neutral vegetable oil, such as olive, and often combined with herbs like the antibacterial garlic. A mixture of fresh mullein juice with plantain juice, dropped into ear, is also excellent remedy for earaches.

An Israeli study done in 2001 looked at one hundred three children aged 6 to 18 years who were diagnosed with earache from OM. An herbal ear oil (garlic, mullein, Calendula, St. John's wort) was compared to an anesthetic drug ear drop. The herbal ear oil was as effective as the drug.^{iii iv} Subsequent research confirmed the findings.

In Europe, there is a long history of smoking this herb, a practice that was picked up by American Indians. It is the active ingredient in several alternative smoking blends.

Mullein seems to be antiviral. Interestingly, recent research indicates the possibility that mullein may be active against herpes and the flu.^{v vi} Recent studies have also found antibacterial activity in the herb, perhaps accounting for some of its success in respiratory and skin conditions.^{vii viii}

Mullein leaves and flowers are on the American "generally recognized as safe" list. To make a tea, steep up to one ounce of herb, dry weight, in hot water, strain and drink throughout the day. In tincture form, use 2-4 Tbs per day. To smoke mullein, crush the dry leaves and use in a pipe. Native Americans boiled the leaves with molasses to make a syrup for croup.

When your sinuses feel as if they are stuffed with fuzzy leaves, it just might be the right time to count on your fuzzy friend to clear out the old pipes.

ⁱ Aligiannis N, Mitaku S, Tsitsa-Tsardis E, Harvala C, Tsaknis I, Lalas S, Haroutounian S. Methanolic extract of *Verbascum macrurum* as a source of natural preservatives against oxidative rancidity. *J Agric Food Chem*. 2003 Dec 3;51(25):7308-12. Related Articles, Links

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The antioxidant properties of various fractions of a methanolic extract obtained from the aerial parts of *Verbascum macrurum* have been determined by monitoring their capacity to scavenge the stable free-radical DPPH. They were also evaluated as natural preservatives against oxidative rancidity using the accelerated Rancimat method. Their activities expressed as protection factor (PF(r)) indicated that the fractions rich with phenylpropanoid glycosides were more potent compared to alpha-tocopherol and of the same magnitude as BHT, which were used as reference standards. Ten natural compounds were identified as components of this methanolic extract and were isolated by medium-pressure liquid chromatography (MPLC). Assessment of their antioxidant activities established that acteoside, a polyhydroxylated phenylpropanoid glycoside derivative, is the most potent free radical scavenger and showed the highest protection factor (PF(r)) against sunflower-oil-induced oxidative rancidity. Its activity is comparable to the synthetic antioxidant BHT and clearly superior to natural alpha-tocopherol. This compound therefore represents a very interesting candidate for use in food preservation as natural protecting agent against oxidative rancidity.

ⁱⁱ Tatli II, Takamatsu S, Khan I, Akdemir ZS. Screening for free radical scavenging and cell aggregation inhibitory activities by secondary metabolites from Turkish *Verbascum* species. *Z Naturforsch [C]*. 2007 Sep-Oct;62(9-10):673-8.

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Free radical scavenging and cell aggregation inhibitory activities of 36 secondary metabolites isolated from the methanolic extracts of *Verbascum cilicicum* Boiss., *V. lasianthum* Boiss. ex Benth, *V. pterocalycinum* var. *mutense* Hub.-Mor., and *V. salviifolium* Boiss. (Scrophulariaceae) were investigated. The isolated compounds, 6-O-vaniloyl ajugol (1), ilwensisaponin A (2), ilwensisaponin C (3), verbascoside (4), beta-hydroxyacteoside (5), martynoside (6), poliumoside (7), forsythoside B (8), angoroside A (9), dehydrodiconiferyl alcohol-9-O-beta-D-glucopyranoside (10), dehydrodiconiferyl alcohol-9'-O-beta-D-glucopyranoside (11), apigenin 7-O-beta-glucopyranoside (12), luteolin 7-O-beta-glucopyranoside (13), luteolin 3'-O-beta-glucopyranoside (14) and chrysoeriol 7-O-beta-glucopyranoside (15), exhibited a dose-dependent inhibition of bioautographic and spectrophotometric DPPH activities. Verbascoside (4) was the most active (IC₅₀ 4.0 microg/ml) comparing it to vitamin C (IC₅₀ 4.4 microg/ml) to inhibit phorbol 12-myristate 13-acetate (PMA)-induced peroxide-catalyzed oxidation of 2',7'-dichlorofluorescein (DCFH) by reactive oxygen species (ROS) within human promyelocytic HL-60 cells. Ilwensisaponin A (2) (MIC 6.9 microg/ml) showed moderate in vitro activity on lymphocyte-associated antigen-1 (LFA-1)/intercellular adhesion molecule-1 (ICAM-1)-mediated aggregation using the HL-60 cell line [positive control was cytochalasin B (MIC 2.3 microg/ml)]. None of the other compounds showed free radical scavenging and cell aggregation inhibitory activities.

iii Sarrell EM, Mandelberg A, Cohen HA. Efficacy of naturopathic extracts in the management of ear pain associated with acute otitis media. Arch Pediatr Adolesc Med 2001 Jul;155(7):796-9

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OBJECTIVE: To determine the efficacy and tolerance of Otikon Otic Solution (Healthy-On Ltd, Petach-Tikva, Israel), a naturopathic herbal extract (containing *Allium sativum*, *Verbascum thapsus*, *Calendula flores*, and *Hypericum perforatum* in olive oil), compared with Anaesthetic (Vitamed Pharmaceutical Ltd, Benyamina, Israel) ear drops (containing amecocaine and phenazone in glycerin) in the management of ear pain associated with acute otitis media (AOM). **DESIGN:** Children between the ages of 6 and 18 years who experienced ear pain (otalgia) and who were diagnosed with eardrum problems associated with AOM were randomly assigned to be treated with Otikon or Anaesthetic ear drops, which were instilled into the external canal(s) of the affected ear(s). Ear pain was assessed using 2 visual analog scales: a linear scale and a color scale. Pain assessment took place throughout the course of 3 days. The mean score of pain reduction was used to measure outcome. **SETTING:** Primary pediatric community ambulatory centers. **PARTICIPANTS:** One hundred three children aged 6 to 18 years who were diagnosed with otalgia associated with AOM. **RESULTS:** Each of the 2 treatment groups were comparable on the basis of age, sex, laterality of AOM, and the effectiveness of ameliorating symptoms of otalgia. The 2 groups were also comparable to each other in the initial ear pain score and in the scores at each application of Otikon or Anaesthetic drops. There was a statistically significant improvement in ear pain score throughout the course of the study period ($P = .007$). **CONCLUSIONS:** Otikon, an ear drop formulation of naturopathic origin, is as effective as Anaesthetic ear drops and was proven appropriate for the management of AOM-associated ear pain.

iv Sarrell EM, Cohen HA, Kahan E. Naturopathic treatment for ear pain in children. Pediatrics. 2003 May;111(5 Pt 1):e574-9. Related Articles, Links

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OBJECTIVE: Otitis media is 1 of the most frequent diseases of early infancy and childhood and 1 of the most common reasons for children to visit a physician. In the past 2 decades, there has been a substantial increase in the diagnosis of otitis media worldwide. In the United States, 93% of all children have had at least 1 episode of acute otitis media (AOM) by 7 years of age. Otolgia is the hallmark of AOM. Most affected children either complain of earache or manifest behavior that the parents interpret as indicating ear pain. Treatment of the ear pain early in the course of AOM decreases both parental anxiety and the child's discomfort and accelerates the healing process. The objective of this study was to determine the efficacy and tolerability of naturopathic versus traditional treatment for the management of otalgia commonly associated with AOM in children. **METHODS:** The study was designed as a double-blind trial in an outpatient community clinic. A total of 171 children who were aged 5 to 18 years and had otalgia and clinical findings associated with middle-ear infection were studied. The children were randomly assigned to receive treatment with Naturopathic Herbal Extract Ear Drops (NHED) or anesthetic ear drops, with or without amoxicillin. On enrollment, the children were assigned by computer-numbered randomization to receive NHED (contents: *allium sativum*, *verbascum thapsus*, *calendula flores*, *hypericum perforatum*, lavender, and vitamin E in olive oil) 5 drops 3 times daily, alone (group A) or together with a topical anesthetic (amethocaine and phenazone in glycerin) 5 drops 3 times daily (group B), or oral amoxicillin 80 mg/kg/d (maximum 500 mg/dose) divided into 3 doses with either NHED 5 drops 3 times daily (group C) or topical anesthetic 5 drops 3 times daily (group D). A double-blind design was used, and all ear drops were placed in identical bottles. Treatment was initiated by the nurse in all cases. A single physician (M.S.) evaluated and treated all of the patients included in the study and recorded all of the data. The presence or absence of ear pain was assessed over 3 days with a visual analog scale. Ear pain was assessed by a specially devised observational instrument based on previous reports. One side of the instrument consisted of a linear numbered scale, from 1 (no pain) to 10 (worst possible pain), and a corresponding color scale, ranging from blue to dark red. The reverse side contained a scale of 5 facial expressions, ranging from broad smile (no pain) to a sad and crying face (worst possible pain), and a corresponding color scale, ranging from blue to dark red. **RESULTS:** There were no significant between-group differences in patient age or gender, degree of fever, main symptoms, associated symptoms, and severity or laterality of acute otitis media. Each group had a statistically significant improvement in ear pain over the course of the 3 days. Patients who were given ear drops alone had a better response than patients who were given ear drops together with amoxicillin. Results were better in the NHED group than in the controls. Nevertheless, the findings indicated that the pain was mostly (80%) self-limited and could be explained simply by the time elapsed. The American Academy of Otolaryngology-Head and Neck Surgery guidelines recommend topical medications as the first line of treatment for ear pain in the absence of systemic infection or serious underlying disease. Because no evidence was found that systemic antibiotics alone improved treatment outcome, if antibiotics do not change the natural course of otitis media, then the main goal of treatment, as in the present study, should be to alleviate the ear pain. The alternative, naturopathic herbal extract medications, may offer many new possibilities in the management of ear pain associated with AOM. Primary care physicians should be aware that at least 10% of their patients may have tried 1 or more forms of alternative/complementary medicine before presenting for consultation. As it was widely reported in the medical literature, these herb, these herbal extracts have the potential to meet all of the requirements of appropriate

medication that could be routinely used in the pediatric patient, namely in vitro bacteriostatic and bacteriocidal activity against common pathogens, immunostimulation ability, antioxidant activity, and anti-inflammatory effects. They are also well-absorbed with good penetration into the tissue surrounding the tympanic membrane. They have been found to enhance local immunologic activity. Finally, herbal extracts are well-tolerated (owing to their long elimination time), easy to administer, and less expensive than the new antibiotics. There are no documented side effects. On the basis of our findings that the group with the most significant treatment effects (NHED with topical anesthetic) explained only 7.3% of the total pain reduction, we propose that sometimes the general practitioner or pediatrician needs to give the human body a chance to repair itself. Nevertheless, if the physician believes that there is an indication for some treatment, especially if the parents are anxious, then a local treatment such as one used in our study might be adequate. CONCLUSIONS: This study suggests that in cases of ear pain caused by AOM in children in which active treatment, besides a simple 2- to 3-day waiting period, is needed, an herbal extract solution may be beneficial. Concomitant antibiotic treatment is apparently not contributory.

^v Serkedjieva J. Combined antiinfluenza virus activity of Flos verbasci infusion and amantadine derivatives. *Phytother Res* 2000 Nov;14(7):571-4

^{vi} Zgorniak-Nowosielska I, Grzybek J, Manolova N, Serkedjieva J, Zawilinska B. Antiviral activity of Flos verbasci infusion against influenza and Herpes simplex viruses. *Arch Immunol Ther Exp (Warsz)* 1991;39(1-2):103-8

^{vii} Turker AU, Camper ND. Biological activity of common mullein, a medicinal plant. *J Ethnopharmacol.* 2002 Oct;82(2-3):117-25.

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Common Mullein (*Verbascum thapsus* L., Scrophulariaceae) is a medicinal plant that has been used for the treatment of inflammatory diseases, asthma, spasmodic coughs, diarrhea and other pulmonary problems. The objective of this study was to assess the biological activity of Common Mullein extracts and commercial Mullein products using selected bench top bioassays, including antibacterial, antitumor, and two toxicity assays--brine shrimp and radish seed. Extracts were prepared in water, ethanol and methanol. Antibacterial activity (especially the water extract) was observed with *Klebsiella pneumoniae*, *Staphylococcus aureus*, *Staphylococcus epidermidis* and *Escherichia coli*. *Agrobacterium tumefaciens*-induced tumors in potato disc tissue were inhibited by all extracts. Toxicity to Brine Shrimp and to radish seed germination and growth was observed at higher concentrations of the extracts.

^{viii} Tadege H, Mohammed E, Asres K, Gebre-Mariam T. Antimicrobial activities of some selected traditional Ethiopian medicinal plants used in the treatment of skin disorders. *J Ethnopharmacol.* 2005 Aug 22;100(1-2):168-75. Epub 2005 Apr 20.

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Hydroalcoholic extracts of eight species of medicinal plants, namely, *Acokanthera schimperi* (Apocynaceae), *Calpurnia aurea* (Leguminosae), *Kalanchoe petitiata* (Crassulaceae), *Lippia adoensis* (Verbenaceae), *Malva parviflora* (Malvaceae), *Olinia rochetiana* (Oliniaceae), *Phytolacca dodecandra* (Phytolaccaceae) and *Verbascum sinaiticum* (Scrophulariaceae), traditionally used in the treatment of various skin disorders were screened for antimicrobial activity against different strains of bacteria and fungi which are known to cause different types of skin infections. The tests were carried out using agar well diffusion method at three concentration levels (100, 50 and 25mg/ml) of the crude extracts. The MICs of the crude extracts of *Lippia adoensis* and *Olinia rochetiana* were determined by agar dilution method. Furthermore, the powdered leaves of *Lippia adoensis* and *Olinia rochetiana* were fractionated into different solvents of wide ranging polarity and the resulting fractions were screened for antimicrobial activity against the same organisms. Of all the plants tested, *Lippia adoensis* and *Olinia rochetiana* were found to be the most active species against bacterial and fungal strains, respectively. In addition, almost all species of plants were found to have activity on at least one microbial strain. The antimicrobial activity profile also showed that *Staphylococcus aureus* and *Trichophyton mentagrophytes* were the most susceptible bacterial and fungal strains, respectively. The results indicate the potential of these herbal drugs in treating microbial infections of the skin, thus, justifying their claimed uses in the treatment of various skin disorders, the majority of which are of infectious origin.

Breast Health? Try Dandelion

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Lawn pest or powerful medicine? Well, I guess this yellow wonder fits the bill both ways. The sturdy little dandelion is a noteworthy herbal medicine in world's three leading systems of herbalism- Traditional Chinese Medicine, Ayurveda and the European biomedical system.

Dandelion is a respected member of the medicine cabinet of each of the great ethnic methods of herbal practice. Although it is an herb of many uses, it is for the most part considered a liver herb. Strangely enough, one of the applications for which it is the most respected in Chinese medicine and Ayurveda is largely unfamiliar here in North America.

To make medicine, dandelion root is the plant part normally used. The leaves, though, have related properties, and are also used as a more potent diuretic.

Dandelion root is a superior medicine for the prevention and healing of breast disease of assorted types. In Ayurveda, it is considered to be specific for the problems of the breast and mammary glands, a use unheralded in Europe and America.

Ayurveda considers lumpy growths, cysts, tumors and masses to be the result of *kapha* dosha, or the wet, cold tendency in the body. Fat has the propensity to predominate where there is accumulated *kapha*. Benign cysts, which tend to accumulate in fatty tissue, such as those that form in the breast, are a prime example. The breast is a fatty organ, so it is especially susceptible to these cysts.

Dandelion is a bitter herb. Bitter herbs are generally cooling to the body, lowering temperature. They lower metabolic rate and they suppress inflammation. Dandelion is also a detoxifying medicine, above all in conditions concerning heat, such as an inflamed breast cyst. Dandelion also promotes lymph detoxification. Because mammary glands are lymph tissues, dandelion can heal them, too.

Because of these qualities, dandelion has the status in Ayurveda as a primary medication for sore breasts, cysts, assorted breast tumors, swollen breast lymph glands and suppressed lactation.

For at least 1100 years, dandelion has been used in TCM for treating breast cancer, mammary gland inflammation and lack of milk flow. This outstanding root is also indicated for shrinking abscesses and dispersing breast nodules. Firm, hard masses are particularly susceptible. Dandelion can be taken internally, or applied externally over the nodule as a poultice.

Recent scientific research has shown that dandelion has action against tumors. The form used in the study was a hot water extract, a tea. This is good news, since that is the traditional form for using dandelion root in natural medicine. One recent Chinese medicine journal article called dandelion "the main treatment in gynecological recalcitrant, difficult conditions."

Twenty to forty percent of premenopausal women are affected by fibrocystic breast disease, a common, uncomfortable disease that is thought to be due to an increased ratio of estrogen to progesterone. The liver is the primary site for estrogen clearance, so an herb that benefits liver would likely benefit this disease. Sure enough, dandelion succeeds.

This little champion has also been found to contain phytosterols, plant hormone building blocks, but it is not known if these have any responsibility for dandelion's assistance for breast tissue.

Dandelion is a well-known diuretic, so it helps water retention, a common factor in breast tenderness.

Take dandelion root in capsules, about 3,000 mg per day, or 1 tsp. per day of tincture. For tea, use ¼ oz. by dry weight of herb, brewed, per day, or drink it as part of a commercial tea bag mixture.

Roasted dandelion root is available at the health food store. Brew it like coffee, or mix ½ and ½ with coffee, and brew. You might also mix dandelion root with chicory root and/or burdock root (¼ oz. of each herb) and simmer for twenty minutes. Drink the delicious concoction three times per day with meals.

So, this little neighborhood nuisance is good medicine. If you're a woman, it can be your friend.

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That marigold on your windowsill can go in your salad, become a soup, soothe your sore throat or treat your eczema. Although a common garden plant, marigold (*Calendula officinalis*) has a long history as food and medicine. The Egyptians employed calendula as a rejuvenating herb, while the ancient Greeks utilized the golden petals to garnish and flavor food.

Long used in Europe as a culinary plant, the beautiful orange flower petals are a vibrant addition to a salad and are added to cheese and butter for color. Calendula is a delicious, velvet textured base for broth, soup or rice dishes. Children particularly like the taste, and it's well suited to their health needs. You can even have a sip of calendula wine.

Although not a strong herbal medicine, calendula is a multipurpose standout. It's anti-inflammatory, antispasmodic, antiviral, anti-fungal and anti-bacterial. It heals wounds, increases bile flow, and cleanses the lymph system. In Europe, calendula was known to comfort the heart, soothe agitation, strengthen eyesight and draw evil spirits. Calendula has a long history of use for headaches, jaundice, red eyes, and toothaches.

The most popular medicine use for calendula is in treating irritated membrane conditions. During the Civil War, doctors used calendula leaves were by to treat open wounds on the battlefield. Calendula flower is among the most soothing of herbs for salves. For soothing children's skin, herbalist Aviva Romm, author of *Natural Healing for Babies and Children*, uses it along with chickweed leaf, plantain leaf, comfrey leaf, and chamomile flower. One study of calendula for wounds showed that it noticeably stimulates physiological regeneration and skin healing.ⁱ

Calendula salve heals wounds, rashes and inflammatory skin lesions with itching, burning, and swelling. Rub the flower into sites of bee stings to reduce swelling and pain.ⁱⁱ Or make a compress for burns, scalds, sore nipples or stings by chopping the flowers and moistening with water.ⁱⁱⁱ The sap from the fresh stem is used to eliminate calluses, warts, and corns.^{iv}

For diaper rash, apply calendula cream with yarrow oil. To soften and moisturize tired feet, use lotions containing calendula flower with chickweed leaf, plantain leaf, comfrey leaf, and chamomile flower.

Calendula cosmetic creams will soften and smooth the skin, heal pimples and reduce large pores.^v A preliminary study showed that, used twice a day, the herbal rinse with calendula reduced plaque by 50% and reduced gum pockets by 1-2 mm.^{vi}

Internally, calendula helps heartburn (gastritis). A Bulgarian study of 137 patients found that a mixture of comfrey and calendula eliminated pain in 90% of the participants.^{vii} The tea will treat internal hemorrhage, inflammation of the throat and nasal passages and menstrual cramps. Apply the tea externally as a wash for conjunctivitis and earache. A 2001 study found that a naturopathic herbal extract eardrop containing calendula treated earache as well as anesthetic eardrops.^{viii} Suppositories help colitis and vaginal irritation. In one older study from Europe, twenty-four patients received an herbal mixture containing dandelion, Saint Johnswort, lemon balm, calendula and fennel. Ninety-five percent had total relief of colitis symptoms in 15 days.^{ix}

Calendula is mildly anti-viral. Herbalists say that it seems to have an affinity for the lower half of the body, where it combines synergistically with echinacea. The mild diaphoretic action of calendula also helps shorten colds. For the lymph system, calendula targets the breast and pelvic tissues, where it stimulates the drainage of enlarged, inflamed lymph nodes. Naturopathic physicians use it as poultice to drain fibroid breast cysts.^x

Calendula is a general remedy for liver disorders. It contains a resin, calendulin, which promotes bile flow, aiding digestion.

Who would have thought that such a pretty little plant could be such powerful medicine?

Diaper Rash Powder

All very finely powdered:

2 parts calendula flower

2 parts slippery elm bark

1 part lavender flower

1 part dry clay

Mix. Put in shaker.

What to Take

Tea	2 tsp. per cup
Wash	Brew 1 Tbs. in 1 cup of water
Soup	6-10 flowers in a pot of soup
Tincture	up to 15 ml per day
Salve	Apply to sores and rashes

ⁱ Klouchek-Popova E, Popov A, Pavlova N, Krusteva S. Influence of the physiological regeneration and epithelialization using fractions isolated from *Calendula officinalis*. *Acta Physiol Pharmacol Bulg* 1982;8(4):63-7

Standard skin wounds have been surgically induced in Wistar albino rats. The wounds were covered with 5% unguentum containing fractions C1 and C5, isolated from the flowers of *Calendula officinalis* belonging to fam. Compositae, in combination with allantoin. Epithelialization has been determined in dynamics as a percentage compared with the beginning of the experiment, using the formula (formula: see text), where t is the wound surface in mm^2 and n is the respective day after the beginning of the experiment. The wound exudate has been studied cytologically using light- and fluorescent microscopy on the 8th, 24th and 48th hour after inflicting the wounds. The histological changes in biopsy material taken from the edges of the wounds on the 10th day have also been investigated. The drug combination applied markedly stimulates physiological regeneration and epithelialization. This effect is assumed to be due to more intensive metabolism of glycoproteins, nucleoproteins and collagen proteins during the regenerative period in the tissues.

ⁱⁱ <http://www.botanical.com/botanical/mgmh/m/marigo16.html#med>

ⁱⁱⁱ <http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?CMD=Display&DB=PubMed>. Kaplan, B. Homoeopathy: 3. Everyday uses for all the family. *Prof Care Mother Child*. 1994 Oct;4(7):212-3.

^{iv} <http://www.pinn.net/~swampy/marigold.html>

^v <http://www.pinn.net/~swampy/marigold.html>

^{vi} *Natural Health*, Sept.-Oct. 1996

^{vii} Chakurski I, Matev M, Stefanov G, Koichev A, Angelova I. [Treatment of duodenal ulcers and gastroduodenitis with a herbal combination of *Symphitum officinalis* and *Calendula officinalis* with and without antacids] *Vutr Boles* 1981;20(6):44-7

A total of 170 patients were treated--137 only with the herb combination (78 with duodenal ulcer and 59 with gastroduodenitis), 33--with the herb combination together with antacid (21 with duodenal ulcer and 12 with gastroduodenitis). As a result from the treatment, the spontaneous pains disappeared in 90 per cent of the patients--in the group with and in the group without antacid, the dyspeptic complaints faded in over 85 per cent but in the patients, treated with herbs and antacid the mentioned complaints disappeared several days earlier. The palpitation pains, in both groups, disappeared in more than 90 per cent of the patients within the same time. Gastric acidity, in both groups, showed a statistically insignificant tendency to decrease prior and post treatment. The gastroscopically control revealed that the ulcer niche, in both groups, was healed in almost the same percentage of the patients.

viii Sarrell EM, Mandelberg A, Cohen HA. Efficacy of naturopathic extracts in the management of ear pain associated with acute otitis media. Arch Pediatr Adolesc Med 2001 Jul;155(7):796-9

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OBJECTIVE: To determine the efficacy and tolerance of Otikon Otic Solution (Healthy-On Ltd, Petach-Tikva, Israel), a naturopathic herbal extract (containing *Allium sativum*, *Verbascum thapsus*, *Calendula flores*, and *Hypericum perforatum* in olive oil), compared with Anaesthetic (Vitamed Pharmaceutical Ltd, Benyamina, Israel) ear drops (containing ametoaine and phenazone in glycerin) in the management of ear pain associated with acute otitis media (AOM). DESIGN: Children between the ages of 6 and 18 years who experienced ear pain (otalgia) and who were diagnosed with eardrum problems associated with AOM were randomly assigned to be treated with Otikon or Anaesthetic ear drops, which were instilled into the external canal(s) of the affected ear(s). Ear pain was assessed using 2 visual analog scales: a linear scale and a color scale. Pain assessment took place throughout the course of 3 days. The mean score of pain reduction was used to measure outcome. SETTING: Primary pediatric community ambulatory centers.

PARTICIPANTS: One hundred three children aged 6 to 18 years who were diagnosed with otalgia associated with AOM. RESULTS: Each of the 2 treatment groups were comparable on the basis of age, sex, laterality of AOM, and the effectiveness of ameliorating symptoms of otalgia. The 2 groups were also comparable to each other in the initial ear pain score and in the scores at each application of Otikon or Anaesthetic drops. There was a statistically significant improvement in ear pain score throughout the course of the study period ($P = .007$). CONCLUSIONS: Otikon, an ear drop formulation of naturopathic origin, is as effective as Anaesthetic ear drops and was proven appropriate for the management of AOM-associated ear pain.

ix Chakurski I, Matev M, Koichev A, Angelova I, Stefanov G [Treatment of chronic colitis with an herbal combination of *Taraxacum officinale*, *Hipericum perforatum*, *Melissa officinalis*, *Calendula officinalis* and *Foeniculum vulgare*]. *Vutr Boles* 1981;20(6):51-4

Twenty four patients with chronic non-specific colitis were treated with a herb combination. As a result from the treatment, the spontaneous and palpable pains along the large intestine disappeared in 95.83 per cent of the patients by the 15th day of their admission to the clinic. Defecation became daily in the patients with obstipation syndrome, but a combination of *Rhamnus frangula*, *Citrus aurantium*, *C. carvi* was added to the herb combination already indicated. Defecation was normalized in patients with diarrhea syndrome. The pathological admixtures in feces disappeared.

x Bastyr University Monograph