

Comfrey (*Symphytum officinale*)

Common Names: Knitbone and bruisewort.

Location: This herb is native to Europe.

Description: All portions of the comfrey herb are used medicinally.

Properties: This herb can be used to reduce pain and inflammation after injuries occur.

Uses: Use comfrey to ease pain and skin problems.

Doses: This herb can be found as a tea, cream or poultice.

Warnings: Do not ingest comfrey if you are on other medications or antibiotics. Also don't take comfrey while pregnant and do not give it to infants

## Comfrey Leaf and Herb Profile

### Also known as

*Symphytum officinale*, Bruisewort, Knitback, Knitbone, Boneset, Slippery Root, Bruisewort, Ass Ear, and Blackwort.

### Introduction

Comfrey leaf has a long history of use to promote the healing of bones and wounds, as well as internal use to treat a wide variety of ailments from arthritis to ulcers. Dioscorides recorded how it was used in treating the armies of Alexander the Great, and Pliny the Elder also makes mention of its great many uses. Its use in Chinese traditional medicine spans over 2000 years. All *Materia Medica* from the Middle Ages forward carried descriptions on the uses of comfrey. Comfrey bathes were very common during the Middle Ages. They were especially popular with women who took them before they were married in order to repair their hymen and thus restore their virginity. Comfrey is widely known as "one of nature's greatest medicinal herbs", and has appeared in the U.S. Pharmacopoeia, as well as in herbals and compendiums around the world. Recently, reports of the toxic effects of pyrrolizidine alkaloids in comfrey have led some herbalists to be wary of using it internally. PAs in extremely large doses or over long periods of time may cause potentially fatal damage to the liver. Many leading herbalists and traditional healers question the warnings, pointing to laboratory tests that show only minute levels of PAs in random samples of comfrey preparations. One of the most common uses of comfrey leaf is in an ointment or a poultice applied to sprains, broken bones and other wounds, where it promotes rapid healing of both skin lesions and bone breaks.

### Constituents

tannin, rosmarinic acid, allantoin, steroidal saponins, mucilage, inulin, pyrrolizidine alkaloids, Gum, Carotene, Glycosides, Sugars, Beta-sitosterol, Triterpenoids, Vitamin B-12, Protein, Zinc. The main healing ingredient in comfrey leaf appears to be a substance called allantoin, which encourages the rapid growth of cells.

## Parts Used

Leaf

## Typical Preparations

Paste, ointment, tincture, decoction, poultice and in cosmetics.

## Summary

Research seems to bear out the claims for the healing properties of comfrey leaf. In one major European study, an ointment based on comfrey root proved more effective at relieving both pain and swelling in 142 patients with sprained ankles. In another study with over 300 participants showed that comfrey leaf treatments of varying types (ointments, salves, compresses and other topical applications), were very effective in treating eczema, dermatitis, viral skin infections and ulcers of the lower leg. More recent research in the United States has shown that allantoin, one of comfrey's main constituents, breaks down red blood cells, which could account for its ability to help heal bruises and contusions as well as promoting the growth of muscle, cartilage, and bone growth. With regards to the warnings that comfrey can cause cancer and liver disease, most herbal practitioners point out that those results were from studies that isolated the pyrrolizidine alkaloids and fed or injected them into animal subjects in doses far higher than any typical usage of comfrey leaf, and that comfrey leaf has been regularly ingested by thousands of people around the world without reported ill effects.

## Precautions

Not recommended for internal use. Not to be used while pregnant. Not to be applied to broken or abraded skin. Comfrey was widely used and recommended until the mid-1980s, when reports began to surface about the possibility of liver damage from the pyrrolizidine alkaloids that some plants contain. In 2001, the FTC and FDA combined to issue an injunction against products containing comfrey that were meant for internal use. This view has been countered by herbalists, who state that common comfrey, the plant most often used for medicinal purposes, contains only negligible amounts of those alkaloids. In fact, one laboratory study of three different sources of comfrey found no pyrrolizidine in one sample, and only negligible amounts in the other two. Still, many herbalists recommend that comfrey preparations should not be taken internally because of the possibility of liver disease and damage. Comfrey should also not be used by pregnant or nursing women.

## Comfrey Root and Powder Profile

### Also known as

Symphytum officinale, Bruisewort, Knitback, Knitbone, Boneset, Slippery Root, Bruisewort, Ass Ear, and Blackwort.

## Introduction

Comfrey is native to Europe and Asia, but now grows wild across North America, favoring shady, moist growing conditions. Its leaves and roots have been used in traditional medicine, both Western and Eastern, for nearly 2000 years. In fact, many of the oldest herbals refer to comfrey as one of the most useful herbs for healing of all sorts. The root was especially valued for the slick mucilage that lines the inside of the hollow, woody stem and root. Comfrey root was considered the "guardian of travelers" and was thought to impart safety to those who journey away from home or into foreign lands, specifically bards and minstrels. It was usually tucked away in a bag or suitcase to ensure protection. Some folklore also gives it the ability to ward off evil of unknown strangers. Because of concerns that the pyrrolizidine alkaloids sometimes found in comfrey root can damage the liver, products using comfrey root that are meant for ingestion are banned for sale in the U.S., Canada and several other countries. Ointments and oils containing comfrey are still allowed, and are used to promote rapid wound healing, including the healing of broken bones. There is a great deal of preliminary evidence that supports the traditional use of comfrey root as a topical application to speed healing, stop bleeding, prevent infection and relieve pain.

## Constituents

tannin, rosmarinic acid, allantoin, steroidal saponins, mucilage, inulin, pyrrolizidine alkaloids, Gum, Carotene, Glycosides, Sugars, Beta-sitosterol, Triterpenoids, Vitamin B-12, Protein, Zinc.

## Parts Used

Root

## Typical Preparations

Oil infusion, salve, ointment, poultices and in certain cosmetics.

## Summary

Comfrey root is used to relieve pain from blunt injuries, promote healing of broken bones, sprains and bruises, reduce swelling and edema, and encourage the rapid and healthy regrowth of skin and tissue cells. Because comfrey may contain PAs, which have caused cancer and liver damage in animal studies, and because the root contains it in higher concentration than the leaves, internal use is not suggested.

## Precautions

Not for internal use. Not to be used while pregnant or nursing. Comfrey was widely used and recommended until the mid-1980s, when reports began to surface about the possibility of liver damage from the pyrrolizidine alkaloids that some plants contain. In 2001, the FTC and FDA combined to issue an injunction against products containing comfrey that were meant for internal use. In tests, comfrey root has been shown to contain nearly ten times the amount of PAs as the young leaves or stems. However, there is no suggestion of danger when comfrey root preparations are used externally or topically, though it's wise to avoid using comfrey root products on open or dirty wounds.

**Botanical: *Symphytum officinale* (LINN.)**

**Family: N.O. Boraginaceae**

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---**Synonyms**---Common Comfrey. Knitbone. Knitback. Consound. Blackwort. Bruisewort. Slippery Root. Boneset. Yalluc (Saxon). Gum Plant. Consolida. Ass Ear.

---**Parts Used**---Root, leaves.

---**Habitat**---A native of Europe and temperate Asia; is common throughout England on the banks of rivers and ditches, and in watery places generally.

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This well-known showy plant is a member of the Borage and Forget-me-not tribe, *Boraginaceae*.

The plant is erect in habit and rough and hairy all over. There is a branched rootstock, the roots are fibrous and fleshy spindle-shaped, an inch or less in diameter and up to a foot long, smooth, blackish externally, and internally white, fleshy and juicy.

---**Description**---The leafy stem, 2 to 3 feet high, is stout, angular and hollow, broadly winged at the top and covered with bristly hairs. The lower, radical leaves are very large, up to 10 inches long, ovate in shape and covered with rough hairs which promote itching when touched. The stem-leaves are decurrent, i.e. a portion of them runs down the stem, the body of the leaf being continued beyond its base and point of attachment with the stem. They decrease in size the higher they grow up the stem, which is much branched above and terminated by one-sided clusters of drooping flowers, either creamy yellow, or purple, growing on short stalks. These racemes of flowers are given off in pairs, and are what is known as scorpioid in form, the curve they always assume suggesting, as the word implies, the curve of a scorpion's tail, the flowers being all placed on one side of the stem, gradually tapering from the fully-expanded blossom to the final and almost imperceptible bud at the extremity of the curve, as in the Forget-meNot. The corollas are bell-shaped, the calyx deeply five-cleft, narrow to lance-shaped, spreading, more downy in the purpleflowered type. The fruit consists of four shining nutlets, perforated at the base, and adhering to the receptacle by their base. Comfrey is in bloom throughout the greater part of the summer, the first flowers opening at the end of April or early May.

The creamy yellow-flowered form is stated by Hooker to be *Symphytum officinale* proper, and the purple flowered he considered a variety and named it *S. officinale*, var *patens*. The botanist Sibthorpe makes a definite species of it under the name *patens*.

There is another species, *S. tuberosum*, found in wet places from North Wales, Stafford and Lincoln northwards into Scotland, and most common in the south of Scotland, though absent from Ireland.

In this form, the stem is scarcely branched and but slightly winged, the bases of the leaves being hardly

at all continued down the stem. Though also covered with hairs, the latter are not so bristly. The root-stock is short and horizontal with slender root fibres. This is a much smaller plant, the stem rarely more than a foot high, rather slender and leafy. The lower radical leaves are much as in *S. officinale* in form, but with longer footstalks. The flowers, creamy-yellow in colour though about the same size as those of *S. officinale*, are in much smaller masses.

The Common Comfrey is abundantly met with in England, but is rare in Scotland; the tuberous Comfrey is commonly found in Scotland, but is seldom met with in England, the northern counties of England and North Wales being its extreme southern limit, so that except in the narrow zone of country common to both, there will be no possibility of mistaking the one species for the other.

The variety of *S. officinale*, with a purplish flower, is more common in many parts of the Continent than in England. The purple and yellowish flowers are not found mixed where the plants grow wild: the difference in colour is permanent in plants raised from seed.

[In the water-meadows which form such a well-known feature in South Wilts, especially in the valleys round about Salisbury, Common Comfrey is abundant, and the flowers vary in colour from creamy-white to a pretty rose-pink; while the purple sort is the commonest. - *Note by a Wiltshire writer.*]

A variety with flowers of a rich blue colour *S. Asperimum*, Prickly Comfrey, was introduced into this country from the Caucasus in 1811 as a fodder plant. This species is the largest of the genus, rising to 5 feet and more, with prickly stems and bold foliage, the leaves very large and oval, the hairs on them having bulbous bases. It was extensively recommended as a green food for most animals, it being claimed for it that it contained a considerable amount of flesh-forming substances, and was, moreover, both preventative and curative of foot and mouth disease in cattle. It has the advantage of producing large crops, two at least in a season, if cut before the flowers quite expand, and in favourable circumstances even more, so that 40 to 50 tons of green food per acre might be reckoned on. At the time of its introduction, a number of farmers and smallholders planted it. It was found, however that though horses, cattle and pigs would eat it, they never took kindly to it as a forage. Horses in time of scarcity will eat it in small quantities in the green state, though do not care for it dried. It is a useful food in the green state for pigs of all ages, but it takes a little time for them to get used to it. Its feeding value, however, has been proved to be not so very much more than that of grass and though it grows luxuriantly in all moist situations, where the soil is pretty good, it is not adapted for either dry or poor land.

The following is the result of an analysis of *S. Asperimum*, by Professor Voelcker:

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	LEAVES		STEM	
	In Natural State	Calc. Dry	In Natural State	Calc. Dry
Water	88.400	--	94.74	--
Flesh-forming substances	2.712	23.37	.69	13.06
Non-nitrogenized substances:				
Heat and fat-producing matters	6.898	59.49	3.81	72.49
Inorganic matters (ash)	.990	.14	.76	14.45
	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>	<u>100.00</u>

On comparison the above figures will show this plant to be almost equal to some of our more important green-food crops; and certainly if we take into consideration the quantity of its produce, there are few

plants capable of yielding so much green food as the Comfrey. Dr. Voelcker says that 'the amount of flesh-forming substances is considerable. The juice of this plant contains much gum and mucilage, and little sugar.'

Formerly country people cultivated Comfrey in their gardens for its virtue in wound healing, and the many local names of the plant testify to its long reputation as a vulnerary herb - in the Middle Ages it was a famous remedy for broken bones. The very name, Comfrey, is a corruption of *con firma*, in allusion to the uniting of bones it was thought to effect, and the botanical name, *Symphytum*, is derived from the Greek *symphyo* (to unite).

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**---Cultivation---**Comfrey thrives in almost any soil or situation, but does best under the shade of trees.

Propagation may be effected either by seed or by division of roots in the autumn: the roots are very brittle, and the least bit of root will start growing afresh. They should be planted about 2 1/2 feet apart each way, and will need no further care except to keep them clear from weeds.

As a green crop they will yield largely if well-rotted manure be dug between the rows when dressing for winter.

As an ornamental plant, Comfrey is often introduced into gardens, from which it is very difficult to eradicate it when it has once established itself, a new plant arising from any severed portion of the root.

**---Parts Used Medicinally---**The root and leaves, generally collected from wild plants.

Comfrey leaves are sometimes found as an adulteration to Foxglove leaves, which they somewhat resemble, but may be distinguished by the smaller veins not extending into the wings of the leaf-stalk, and by having on their surface isolated stiff hairs. They are also more lanceolate than Foxglove leaves.

**---Constituents---**The chief and most important constituent of Comfrey root is mucilage, which it contains in great abundance, more even than Marshmallow. It also contains from 0.6 to 0.8 per cent. of Allantoin and a little tannin. Starch is present in a very small amount.

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**---Medicinal Action and Uses---**Demulcent, mildly astringent and expectorant. As the plant abounds in mucilage, it is frequently given whenever a mucilaginous medicine is required and has been used like Marshmallow for intestinal troubles. It is very similar in its emollient action to Marshmallow, but in many cases is even preferred to it and is an ingredient in a large number of herbal preparations. It forms a gentle remedy in cases of diarrhoea and dysentery. A decoction is made by boiling 1/2 to 1 OZ. of crushed root in 1 quart of water or milk, which is taken in wineglassful doses, frequently.

For its demulcent action it has long been employed domestically in lung troubles and also for quinsy and whooping-cough. The root is more effectual than the leaves and is the part usually used in cases of coughs. It is highly esteemed for all pulmonary complaints, consumption and bleeding of the lungs. A strong decoction, or tea, is recommended in cases of internal haemorrhage, whether from the lungs, stomach, bowels or from bleeding piles -to be taken every two hours till the haemorrhage ceases, in severe cases, a teaspoonful of Witch Hazel extract being added to the Comfrey root tea.

A modern medicinal tincture, employed by homoeopaths, is made from the root with spirits of wine, 10 drops in a tablespoonful of water being administered several times a day.

Comfrey leaves are of much value as an external remedy, both in the form of fomentations, for sprains, swellings and bruises, and as a poultice, to severe cuts, to promote suppuration of boils and abscesses,

and gangrenous and ill-conditioned ulcers . The whole plant, beaten to a cataplasm and applied hot as a poultice, has always been deemed excellent for soothing pain in any tender, inflamed or suppurating part. It was formerly applied to raw, indolent ulcers as a glutinous astringent. It is useful in any kind of inflammatory swelling.

Internally, the leaves are taken in the form of an infusion, 1 OZ. of the leaves to 1 pint of boiling water.

Fluid extract: dose, 1/2 to 2 drachms.

The reputation of Comfrey as a vulnerary has been considered due partly to the fact of its reducing the swollen parts in the immediate neighbourhood of fractures, causing union to take place with greater facility. Gerard affirmed: 'A salve concocted from the fresh herb will certainly tend to promote the healing of bruised and broken parts.' Surgeons have declared that the powdered root, if dissolved in water to a mucilage, is far from contemptible for bleedings and fractures, whilst it hastens the callus of bones under repair. Its virtues as a vulnerary are now attributed to the Allantoin it contains. According to Macalister (*British Medical Journal*, Jan. 6, 1912), Allantoin in aqueous solution in strengths of 0.3 per cent has a powerful action in strengthening epithelial formations, and is a valuable remedy not only in external ulceration, but also in ulcers of the stomach and duodenum. Comfrey Root is used as a source of this cell proliferant Allantoin, employed in the dealing of chronic wounds, burns, ulcers, etc., though Allantoin is also made artificially.

The following is from the *Chemist and Druggist* of August 13, 1921:

'Allantoin is a fresh instance of the good judgment of our rustics, especially of old times, with regard to the virtues of plants. The great Comfrey or consound, though it was official with us down to the middle of the eighteenth century, never had a very prominent place in professional practice; but our herbalists were loud in its praise and the country culler of simples held it almost infallible as a remedy for both external and internal wounds bruises, and ulcers, for phlegm, for spitting of blood, ruptures, haemorrhoids, etc. For ulcers of the stomach and liver especially, the root (the part used) was regarded as of sovereign virtue. It is precisely for such complaints as these that Allantoin, obtained from the rhizome of the plant, is now prescribed. One old *Syrupus de Symphyto* was a rather complicated preparation. Gerard has a better formula, also a compound, which he highly recommends for ulcers of the lungs. The old Edinburgh formula is the simplest and probably the best: Fresh Comfrey leaves and fresh plantain leaves, of each lb.ss.; bruise them and well squeeze out the juice, add to the dregs spring water lb.ij.; boil to half, and mix the strained liquor with the expressed juice; add an equal quantity of white sugar and boil to a syrup.'

Culpepper says:

'The great Comfrey ("great" to distinguish it from the "Middle Comfrey" - another name for the Bugle) restrains spitting of blood. The root boiled in water or wine and the decoction drank, heals inward hurts, bruises, wounds and ulcers of the lungs, and causes the phlegm that oppresses him to be casily spit forth.... A syrup made there of is very effectual in inward hurts, and the distilled water for the same purpose also, and for outward wounds or sores in the fleshy or sinewy parts of the body, and to abate the fits of agues and to allay the sharpness of humours. A decoction of the leaves is good for those purposes, but not so effectual as the roots. The roots being outwardly applied cure fresh wounds or cuts immediately, being bruised and laid thereto; and is specially good for ruptures and broken bones, so powerful to consolidate and knit together that if they be boiled with dissevered pieces of flesh in a pot, it will join them together again.'

He goes on to describe its curative effect on haemorrhoids and continues:

'The roots of Comfrey taken fresh, beaten small and spread upon leather and laid upon any place troubled with the gout presently gives ease: and applied in the same manner it eases pained joints and tends to heal running ulcers, gangrenes, mortifications, for which it hath by often experience been found helpful.'

The young leaves form a good green vegetable, and are not infrequently eaten by country people. When fully grown they become, however, coarse and unpleasant in taste. They have been used to flavour cakes and other food.

In some parts of Ireland Comfrey is eaten as a cure for defective circulation and poverty of blood, being regarded as a perfectly safe and harmless remedy.

Comfrey roots, together with Chichory and Dandelion roots, are used to make a well-known vegetation 'Coffee,' that tastes practically the same as ordinary coffee, with none of its injurious effects.

A strong decoction has been used on the Continent for tanning leather, and in Angora a sort of glue is got from the common Comfrey, which is used for spinning the famous fleeces of that country.

In that inimitable little book by Russell George Alexander, called *A Plain Plantain*, in which he quotes from an old MS. inscribed 'Madam Susanna Avery, Her Book, May ye 12th Anno Domini 1688,' we find the following reference to Comfrey: 'From the French *conserve*, Latin *conserva* - healing: *conserves* - to boil together; to heal. A Wound Herb.' 'The roots,' says a sixteenthcentury writer, 'heal all inwarde woundes and burstings,' and Baker (*Jewell of Health*, 1567) says: 'The water of the Greater Comferie druncke helpeth such as are bursten, and that have broken the bone of the legge.' In cookery, the leaves gathered young may be used as a substitute for Spinach; the young shoots have been eaten after blanching by forcing them to grow through heaps of earth.