**Comfrey, *Symphytum officinale L.***

**Name**

boneset, common comfrey, consound1, cultivated comfrey, Quaker comfrey1, knitbone, slippery-root. (Note: this monograph does *not* refer to other types of comfrey, such as Symphytum x uplandicum, or Russian comfrey.)

**Description**

Comfrey is a leafy, flowering perennial. Native to Europe it can found in most of North America, though notably absent in several central US States.

Known for its fast, resilient growth, comfrey has been used since at least 400 BC8 for its healing properties. In recent decades, it has controversially been deemed as harmful to the liver due to its pyrrolizidine alkaloid content. For this reason, it should be sourced carefully and used under the advice of an experienced herbalist.

Comfrey grows in a rosette pattern to a height of up to 1m. It has large, hairy leaves and black, turnip-like root which can grow down 8 to 10-feet and out to a 3-foot radius.

**Parts Used:** Roots, aerial parts

**Uses:**

***Gastrointestinal***

* + Infusion comforts mucous membranes. 5
  + Internal hemorrhages in stomach and bowels. 5
  + For bleeding ulcers, comfrey may be combined with plantain leaves. 5

***Lungs***

* Both leaves and roots may be used to make a syrup which “loosens and expels phlegm from the walls of the lungs.”5

***Throat***

* Softens and soothes the throat.5

***Weak ligaments and muscles, especially the knee***

* Poultice of fresh leaves, chopped, warmed briefly in hot water, and applied directly to area.
* Poultice of dried comfrey root powder mixed with hot water and olive oil, applied to the affected area and covered with a heating pad.5

***Varicose veins / Hemorrhoids***

* Comfrey and yarrow poultice5

***Broken Bones***

* Comfrey leaf infusion5
* Comfrey poultice5
* There is recent clinical evidence for comfrey’s effectiveness in treating:
  + Back pain, osteoarthritis, sprains, rheumatism, and erythema.2
  + Study of rats given 6 drops/day homeopathic dosage of comfrey mixed with water showed greater bone density around titanium implants during initial bone healing. This indicates “accelerated rate of bone maturation and mineral deposition.”

***Skin***

* Include comfrey leaves in a facial steam mixed with lavender and rose petals.5

**Actions**: anti-inflammatory (demulcent), analgesic, antitussive (suppresses coughing), antioxidant, astringent, cooling, diuretic, expectorant, emollient (soothes skin)

**Constituents**:“Mucilage polysaccharides (29%) composed of fructose and glucose units, especially in the root; allantoin, phenolic acids, including rosmarinic, chlorogenic, caffeic and α-hydroxy caffeic acids; glycopeptides and amino acids; triterpene saponins, as monodesmosidic and bidesmosidic glycosides based on hederagenin, oleanolic acid and lithospermic acid.” 2

“Comfrey also contains pyrrolizidine alkaloid, the content of which depends on the source of plant material and storage conditions.” 2

**Harvest**:

* **Leaves and buds:** “best harvested when the flowers just start to bud”6
  + Note: “Early spring harvests **reveal the highest alkaloid conten**t and leaves harvested later in the season having much smaller amounts.” 6
* **Roots**: May be harvested in the spring or fall.6

**Contra-indications:**

* Do not use on broken skin. The “high protein content of the plant is a ripe breeding ground for bacteria.”5
* Internal use must be approached cautiously and for a limited time. E.g. Talk to an experienced herbalist.
* Should not be used during pregnancy and lactation.2

**Interesting Notes**:

A 2002 article published in the journal *Trends in Pharmacological Sciences* makes the following points in questioning whether comfrey is actually toxic to humans due to its pyrrolizidine alkaloid content (PA):

* “The conclusion that comfrey is not safe for internal use in humans is primarily based on studies in which high levels of purified PAs were administered to rodents. **Systematic toxicity testing or clinical trials have not been performed.**”[boldface added]
* “**Research to date has often been flawed by the use of inappropriate animal models and faulty experimental design.** Correct botanical identification and analysis of the plant material for PA content and profile is essential. In addition, animal species vary widely in their susceptibility to PA toxicity, and the toxic response is dependent on the specific PA.” [boldface added]
* Regarding animal models:
  + “Despite their sensitivity to PAs, pigs readily accept comfrey and show no adverse effects, even when comfrey represents 40% of their diet.”
  + “Chickens, another sensitive species, also show no ill effects when fed comfrey.”
  + “By contrast, rats appear to be sensitive to the PAs in comfrey.”
  + “Rats might not be an appropriate human model because their hepatic response to PAs seems to differ from the human response”

**References**

1 Symphytum officinale. <https://en.wikipedia.org/wiki/Symphytum_officinale>

2 Edwards, Sarah E., et al. "Comfrey." *Phytopharmacy: An Evidence-Based Guide to Herbal Medical Products* (2015): 114-117.

3 Sakakura, Celso Eduardo, et al. "Influence of homeopathic treatment with comfrey on bone density around titanium implants. A digital subtraction radiography study in rats." Clinical oral implants research 19.6 (2008): 624-628.

4 Rode, Dorena. "Comfrey toxicity revisited." *Trends in pharmacological sciences* 23.11 (2002): 497-499.

5 Berger, Judith. Herbal Rituals. St. Martin’s Griffin. First Edition 1999. 205-215

6 Comrey Leaf. <https://www.mountainroseherbs.com/products/comfrey-leaf/profile>

7 Rode, Dorena. "Comfrey toxicity revisited." *Trends in pharmacological sciences* 23.11 (2002): 497-499.

8 Alfrey, Paul. Comfrey: Its History, Uses & Benefits. March 3, 2016. https://www.permaculture.co.uk/articles/comfrey-its-history-uses-benefits

**Images**

Page 1: http://www.comfreycentral.com/

Page 2: http://www.comfrey-central.com/images/flanigan2.jpg