

# HERBAL EXPOSITION: VALERIAN

## Valerian (*Valeriana officinalis*)

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There are over 250 species in the family Valerianaceae. All species are similar and since the exact species varies regionally, most are used medicinally. However, the most commonly used medicinal species in Western Herbalism is *Valeriana officinalis* (Alternative Medicine Review, 2004) (hereafter referred to as "Valerian"). Valerian is among the oldest herbs reported to be used medicinally. Hippocrates used it 400 years B. C., Dioscorides and Galen used it in the first and second centuries (they called it phu), and the ancient Chinese and Indians used it (Hobbs, 1996), (Grieve, 1971).

Valerian is a perennial garden plant (*V. officinalis* is also called by the common name "garden Valerian") that grows 3-4 feet tall with white-pale pink/purple flowers (Hartung, 2000). It is native to Europe and Asia, but has been naturalized to the United States (Patocka & Jakl, 2010). It grows in almost any conditions, but prefers partial shade near water where the soil is moist (Hartung, 2000). The most commonly used medicinal parts are the roots and rhizomes, however there are references to use of aerial parts (Chevallier, 1996). The roots are best harvested in the fall of the second year for potency (Chevallier, 1996).

Many Western scientists have tried to elucidate the "active" constituents in Valerian, but it seems quite apparent that the plant works synergistically. Valerian has over 150 chemical constituents, including alkaloids, essential oils and valepotriates (Patocka & Jakl, 2010), (American Herbal Pharmacopoeia, April 1999). The main essential oils are sesquiterpenes and valerenic acid (American Herbal Pharmacopoeia, April 1999). It is the valerenic acid as well as the isovaleric acid that give Valerian its distinctive "dirty-sock" odor (Patocka & Jakl, 2010). Valerenic acids have been found to inhibit the CYP3A4-mediated metabolism (Lefebvre, et al., 2004) but not in such a way as to cause herb-drug interactions with drugs that are metabolized via the CYP3A4 or the CYP2D6 pathways (Donovan, et al., 2004). Valerenic acids have also been proven to be partial agonists of the 5-HT(5a) and 5-HT(1a) receptors (Dietz, Mahady, Pauli, & Farnsworth, 2005), (American Herbal Pharmacopoeia, April 1999). One of the alkaloids, actinidine, is intoxicating to cats, similar to catnip, and cats are often attracted to Valerian plants and even dried roots (Grieve, 1971), (Patocka & Jakl, 2010). Grieve (1971) also mentions that the legend of the Pied Piper may have come from the man carrying Valerian, which she states is as attractive to rats as it is to cats. The alkaloids valtrate and didrovaltrate have cytotoxic activity (Hoffmann, 1998). The valepotriates are amphoteric, and regulate the autonomic system some by sedation and other by stimulation (Hoffmann, 1998). According to Spinella (2002) and Patocka and Jakl (2010), Valerian has GABAergic effects, and "Valerian shows evidence of pharmacodynamic synergy" (Spinella, 2002). Other studies discuss that it is difficult, if not impossible to determine one or more specific constituents that cause Valerian's medicinal effects (Lefebvre, et al., 2004), (Dietz, Mahady, Pauli, & Farnsworth, 2005), (Attele, Xie, & Yuan, 2000), (Klepser & Klepser, January, 1999), (American Herbal Pharmacopoeia, April 1999). The American Herbal Pharmacopoeia (1999) goes on to explain that the valepotriates degrade rapidly so are most likely not playing a major role in Valerian's medicinal effects. Additionally, valerenic acid is not available in methanol extracts (Dietz, Mahady, Pauli, & Farnsworth, 2005).

Traditionally, the energetics of Valerian are warm and pungent, slightly bitter or acrid (Holmes, 2006), (Wood, 2008), (Wynn & Fougere, 2007). Being amphoteric, it is restorative; bitter and sweet, stimulating and relaxing, and warming and cooling (Holmes, 2006). Even Dioscorides described Valerian as “warming and drying,...bitter, astringent and sweet” (Hobbs, 1996).

Most commonly, Valerian is used as a sleep aid. Most Western research involving Valerian is about insomnia. It is also quite positive. A double blind study performed by Lindahl and Lindwall (1989) found that “44% of subjects had perfect sleep and 89% reported better sleep.” Additionally, “subjective evaluations on valerian have reported significant decreases in the time it takes to fall asleep, improvement in the quality of sleep, and unaffected night awakenings, dream recall and somnolence” (Buckland, 1999). Other studies have confirmed improvements in the quality of sleep, sleep latency, and reductions in the number of nighttime awakenings (Attele, Xie, & Yuan, 2000). These results even were found in cancer patients undergoing treatment (Barton, et al., 2011). This study found that cancer patients taking Valerian had less fatigue and drowsiness as well as increased sleep and decreased sleep latency. Other Western uses of Valerian include anxiety (Alternative Medicine Review, 2004). Valerian decreases blood pressure and stress related heart problems including angina, loss of blood supply in ischemic myocardium and hypertrophic cardiomyopathy in cats (Buckland, 1999), (Wynn & Fougere, 2007), (Alternative Medicine Review, 2004), (Hoffmann, 1998). It is a good muscle relaxant, especially of smooth muscle, including relieving uterine cramps (Wynn & Fougere, 2007), (Hoffmann, 1998). Due to these smooth muscle effects, Valerian is useful for the gastrointestinal tract for cramping and indigestion (Hoffmann, 1998).

Traditionally, Valerian’s uses have changed throughout the centuries in which it has been used. Despite its modern reputation for smelling like “dirty socks,” Valerian was used in perfume around the time of Aristotle (Hobbs, 1996). Dioscorides and other herbalists into the 1600’s used Valerian as a bitter (for digestive issues especially as a carminative), for urinary tract problems (including as a diuretic), as an emmenagogue, and for the respiratory tract (for coughs and asthma) (Hobbs, 1996). Applying current medical knowledge, most of the above problems involve smooth muscle relaxation. From the 1600’s until the early 1900’s, Valerian’s primary use was for nervous disorders, such as epilepsy and hysteria (American Herbal Pharmacopoeia, April 1999), (Hobbs, 1996). Grieve (1971) also mentions Valerian’s use as an analgesic and for overwrought nerves during air raids during World War II. Wynn and Fougere (2007) mention other historical uses in animals including the Blackfoot tribe using variant species of Valeriana in horses with colic internally and externally to heal skin problems.

Proper preparation and dosage of Valerian is important. Most roots and rhizomes are decocted, but Valerian is infused. In fact, a cold water infusion is very effective (Holmes, 2006), (Hoffmann, 1998). It is most commonly used as a tincture, despite the findings of Dietz et al. (2005) that valerenic acid is not available in ethanol. It can also be used as a tablet or in capsules, both of which are found commonly over the counter in the United States and many other countries. (This is part of why Valerian has been so well researched by Western researchers: its availability over the counter). As with all herbs, it is important to know the source, dosage and bioavailability of the actual herb in the preparation being used. Most references recommend using Valerian in relatively high doses (i.e., in tinctures, dosages should be measured in teaspoons, not drops) (Hoffmann, 1998).

The reason Valerian is so available is that it is listed on the FDA’s GRAS (generally recognized as safe) list (Alternative Medicine Review, 2004), (Klepser & Klepser, January, 1999). It is approved as a sedative by German Commission E to treat sleeping disorders and restlessness (Dietz, Mahady, Pauli, & Farnsworth, 2005), (Klepser & Klepser, January, 1999). Canada approves it as a sleep aid (American Herbal Pharmacopoeia, April 1999). It is included in the Pharmacopoeias of Austria, France, Germany, Italy, Switzerland and England (American Herbal Pharmacopoeia, April 1999), (Hobbs, 1996). There will always be a few individuals who have adverse reactions to any product, from food to clothes to medicines. However, the reports of adverse reactions to Valerian in people for whom it is properly indicated are rare (see below for discussion of indications for use by temperament) (Alternative Medicine Review, 2004), (American Herbal Pharmacopoeia, April 1999). There are some poorly substantiated reports of Valerian prolonging sleep time when mixed with barbiturates (Alternative Medicine Review, 2004), (Klepser & Klepser, January, 1999), (American Herbal Pharmacopoeia, April 1999), (Wynn & Fougere, 2007). Side effects listed included: tachycardia, nausea, headache and hangover-like effect (Wynn & Fougere, 2007), (Klepser & Klepser, January, 1999).

There is one very important factor about Valerian that every herbalist should always keep in mind. "It is a plant that fits people better than conditions" (Kane, 2009). There are many reports of Valerian having paradoxical effects in people for whom it is incorrectly indicated (Holmes, 2006), (Wood, *The Practice of Traditional Western Herbalism*, 2004), (Kane, 2009), (Wynn & Fougere, 2007). "Valerian works best for those with lowered innate vitality" (Kane, 2009). Many sources discuss using it in people with poor circulation, cool skin, pallor and who are generally "feeble" or deficient (Wood, *The Practice of Traditional Western Herbalism*, 2004), (Wood, *The Earthwise Herbal: A Complete Guide to Old World Medicinal Plants*, 2008), (Holmes, 2006). In people for whom it is contraindicated, as well as in cats (Wynn & Fougere, 2007), Valerian can cause a euphoric state with "the symptoms it is supposed to cure: nervousness, irritation, wakefulness, and restlessness" (Wood, *The Practice of Traditional Western Herbalism*, 2004).

Overall, *Valeriana officinalis* is a safe herb with many uses, primarily involving smooth muscle effects and insomnia. It is important to use Valerian only in weak and deficient people. Use Valerian in large enough doses to be effective, both in the dose prepared and administered. It is also important to prepare the Valerian correctly: either as an infusion or a tincture (tablets and capsules are used less frequently). Valerian can be identified by its appearance and confirmed by its characteristic "dirty-sock" odor (Grieve, 1971). If all of these things are kept in mind, Valerian can be a powerful herbal ally for many nervous and other conditions.

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