Kava-Kava and Liver Toxicity Concerns

The dietary supplement industry has issued several suggestions regarding the concerns building about the herb kava (piper methysticum) and liver toxicity (hepatotoxicity). Based on the limited information made available to date, consumers of kava should consider the following steps.

- Kava should not be used by anyone with past or present liver problems.
- Kava should not be used by anyone taking any drugs with known adverse effects on the liver.
- Kava should not be taken by those who consume alcohol regularly.
- Kava should not be taken on a daily basis for more than four weeks (unless there is the supervision of a health care provider).
- Kava should be discontinued if symptoms of jaundice (e.g. dark urine, yellowing of the eyes) occur.

Bear in mind, there are still NO definitive conclusions about kava and its impact on the liver. This information is presented to help make you more aware and cautious, not to cause alarm. Please read the information below for more details surrounding this subject.

Background

How Did These Concerns Start? The German Federal Institute for Drugs and Medical Devises allegedly discovered 24 cases of liver toxicity associated with kava use. Switzerland has reported 5 cases. Diagnoses included hepatitis, cirrhosis, and liver failure. Switzerland has banned products containing the kava extract, while German authorities have proposed to follow suit. Now health authorities around the world, including the FDA, have started to examine the evidence and review the status of kava.

Are There Studies? The potential hepatotoxicity of kava or its phytochemicals has not been studied. No side effects have been reported using standardized kava extracts at recommended levels in clinical studies. Any concerns of kava toxicity are associated with prolonged use of very high doses. In susceptible individuals, some symptoms may show up after one month of kava use, including yellowed skin, fatigue, and dark urine. Nevertheless, it is unclear which individuals might be susceptible to adverse liver effects. Until more is known, those with a history of liver disease should avoid kava.

Issues to Consider

Many of the case reports suggesting the connection between kava and liver toxicity are deficient in providing the information necessary to arrive at definite conclusions. Below are possible factors that should be considered when looking at the concerns surrounding kava and liver toxicity.

Drugs: Apparently, conventional drugs were also being taken in all except 5 of the 24 liver/kava cases reported in Germany. Therefore, it is possible that some of the cases of liver damage were not due to the kava.

History: There has been no association of liver damage reported in the South Pacific islands where consumption of kava as a beverage is an important aspect of the traditional culture.

Alcohol Consumption and Overall Health: The possibility that kava can cause liver damage is supported by a survey of an Aboriginal community in Australia. Although occasional users of kava in this community generally had normal liver function, laboratory evidence of liver injury was quite common among heavy users of the herb. It is not clear how relevant these findings are to other communities, since the overall health of the Aborigines who were studied was relatively poor. One might infer, at the least, that individuals in poor health are susceptible to liver damage if they take large amounts of kava.
Furthermore, concurrent use of alcohol is often widespread in such communities and this could account for the observed liver damage.\(^3\)

**Dosage:** A recent survey of 400 German medical practices revealed that 78% of the kava prescriptions that were written significantly exceeded the recommended intake.\(^7\) This raises the possibility that some of the reported cases of liver toxicity may have been due to excessive intake levels of kava. However, dosage information for the 24 cases has not been released.\(^6\)

**Peelings:** A team of University of Hawaii scientists may have an explanation of why some Europeans who used products containing kava extract suffered liver damage. The researchers feel the culprit may be a compound found in the *stem peelings and leaves of the kava plant but not in the roots* that are used to make the traditional kava drink consumed by Pacific Islanders. The research was prompted by the fact experts were unable to explain how a plant used in island cultures for 3,000 years could suddenly be so toxic. Now researchers believe peelings from the stem bark of kava plants apparently were used to create the extract for many herbal supplements, due to a high demand, and may be to blame for the liver-related injuries. Peelings are traditionally avoided by kava drinkers. Tang, the lead researcher, emphasized that it is important to look at the traditional use of a plant to really use it correctly. Tang reported they found an alkaloid called *pipermethystine* in tests of stem peelings and kava leaves, but not the root itself. The root is what is used to make the traditional drink. Preliminary tests show pipermethystine has a "strong negative effect" on liver cell cultures. If peelings containing the alkaloid were used to make kava capsules - and the scientists suspect they were - that could explain the liver damage in some of the people who took the capsules.\(^8\)

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**Quotes by Qualified Professionals**

“It is surprising that a side effect as serious as liver failure would not have been previously recognized during the hundreds, if not thousands, of years that kava has been used as a medicinal herb. The recentness of the reports of this adverse effect raises the possibility that a contaminant has been introduced into some commercially available kava products. Another possibility is that liver disease is a very rare side effect of kava that has become apparent only because so many people are now taking the herb. However, speculation aside, and notwithstanding the apparent rarity of the reaction, the reports linking kava to liver damage must be taken seriously.” Alan R. Gaby, M.D. an expert in nutritional therapies, served as a member of the Ad-Hoc Advisory Panel of the National Institutes of Health Office of Alternative Medicine. He is the Medical Editor for Clinical Essentials Alert. Currently he is the Endowed Professor of Nutrition at Bastyr University of Natural Health Sciences, Kenmore, WA.

“The rare cases of hepatotoxicity due to kava consumption are likely to be an immunoallergic reaction, perhaps exaggerated by the type of extract consumed and deficiencies in detoxifying enzymes. In my view these are not sufficient grounds to restrict the use of kava by suitably qualified herbal clinicians, but may lead to tighter controls on unsupervised use of kava.” Kerry Bone BSc, Dip Phyto, FNIMH, FNHAA, MCPP, Director of Research and Development, MediHerb Pty Ltd.; Principal, Australian College of Phytotherapy, Australia.

**Is kava inherently hepatotoxic?** There are many questions and there are still NO definitive answers. Nevertheless, use caution and talk with your health care practitioner about what is right for YOU! Check back with us in the near future for more on this issue. We stay abreast of the latest news and will pass it on as soon as it becomes available.

Prepared by Jen Allbritton, CN

*References available upon request.*
Herbs to Help Anxiety – other than Kava

Anxiety describes any feelings of worry or dread, usually about potential events that might happen. Some anxiety about stressful events is normal. However, in some people, anxiety interferes with the ability to function. Severe anxiety usually lasts more than six months, though it may not be a problem every day. Physical symptoms can sometimes result, including fatigue, insomnia, and irritability. Some people who think they are anxious may actually be depressed. Because of all these factors, it is important for people who are anxious to seek expert medical care. Natural therapies can be one part of the approach to helping relieve mild to moderate anxiety.

An old folk remedy for anxiety, particularly when it causes insomnia, is **chamomile tea**. There is evidence from test tube studies that chamomile contains compounds with a calming action.¹ There are also animal studies that suggest a benefit from chamomile for anxiety,² but no human studies support this belief. Often one cup of tea is taken three or more times per day.

**St. John’s wort** is very popular for the treatment of mild depression. It has also been reported in one double-blind study to reduce anxiety.³

A number of other botanicals known as “nerve tonics” are also used in traditional herbal medicine with anxious people. These have not been rigorously investigated by scientific means to confirm their efficacy, although they have a long track record of safety. These include **oats** (oat straw), **hops**, **passion flower**, **scullcap**, **valerian**, **hyssop**, and **linden**. A German study has found the combination of valerian and passion flower to be useful for anxiety.⁴ Refer to detailed references for more information on the individual herbs. Below is a brief overview of a few of the most commonly used.

- **Oats**: In folk medicine, as well as among current herbalists, oats are used to treat nervous exhaustion, insomnia, and “weakness of the nerves.” Oats can be eaten as a morning breakfast cereal. A tea can be made from a heaping tablespoonful of oats brewed with 1 cup of boiling water; after cooling and straining, the tea can be drunk several times a day.⁵ It can also be taken as a tincture or in capsule or tablet form. Follow the directions on the bottle. A soothing bath to ease irritated skin can be made by running bath water through a sock containing several tablespoons of oats.

- **Hops**: Hops have been shown to have mild sedative properties. The German Commission E monograph recommends 500 mg for anxiety.⁵ This can be repeated three to four times daily. The dried fruits can be made into a tea by pouring one half to 1 cup of boiling water over 1–2 U.S. teaspoons of the fruit. Steep for ten to fifteen minutes before drinking. It can also be taken as a tincture or in capsule or tablet form. Follow the directions on the bottle. Many herbal preparations use hops in combination with herbal sedatives, including valerian, passion flower, and scullcap.

- **Passion Flower**: The effects of passion flower are believed to be primarily on the nervous system, particularly for anxiety due to mental worry and overwork.⁶ The recommended intake of the dried herb is 4–8 grams three times per day.⁷ To make a tea, 0.5 to 2.5 grams of the herb can be steeped with boiling water for ten to fifteen minutes and drunk two to three times per day. It can also be taken as a tincture or in capsule or tablet form. Follow the directions on the bottle.
• **Scullcap**: As is the case in modern herbal medicine, scullcap was used historically as a sedative for persons with nervous tension and insomnia. Scullcap tea can be made by pouring 1 cup of boiling water over 1–2 U.S. teaspoons of the dried herb and steeping for 10 to 15 minutes; this tea may be drunk three times per day. However, the dry plant may be less effective than the fresh plant. As a result, tincture made from fresh scullcap is generally preferred. Follow the directions on the bottle.

### Other Things to Consider

**Poor dietary habits can trigger or aggravate anxiety.** For example, eating a meal high in simple carbohydrates (e.g. refined sugar or white flour) can cause blood sugar levels to soar, then plummet. Missing a meal also leads to low blood sugar. And when sugar levels drop, epinephrine (adrenaline) rises. The result is lightheadedness, difficulty concentrating, irritability, and jitteriness. For people vulnerable to attacks of low blood sugar, small, frequent meals can help. Consuming protein and fat in every meal will also help stabilize blood sugar.

**Other Nutritional Factors**: There are at least six nutritional factors that may trigger anxiety, they include alcohol, caffeine, sugar, deficiency of the B vitamins (niacin, pyridoxine, and thiamin), deficiency in calcium or magnesium, and food allergies.

- **Caffeine**: People with high levels of anxiety appear to be more susceptible to the actions of caffeine. Too much caffeine can also cause jitters, and for some, anxiety. All sources of caffeine should be avoided, including coffee, tea, chocolate, caffeinated sodas, and caffeine-containing medications.

- **Magnesium**: For mild anxiety, magnesium may be relaxing. Typically, 200–300 mg of magnesium are taken two to three times per day. Some doctors recommend soaking in a hot tub containing 1–2 cups of magnesium sulfate crystals (such as Epsom salts) for fifteen to twenty minutes, though support for this approach remains anecdotal. Note: excess magnesium may result in diarrhea.

- **B vitamin complex**: B vitamins, especially B6, aid in the optimal function of the nervous system. A deficiency in B6 may alter nerve function and increase the probability of stress-related symptoms such as depression and irritability. Investing in a well-rounded B-complex supplement can help build your reserves.

**Omega-3 Fatty Acids**: Omega-3, one of the essential fatty acids (EFAs), is a structural molecule within the human body and in the brain in particular. By definition EFAs are "essential" and required from dietary sources because the body cannot produce them. America’s eating habits have led to a significant imbalance of omega-3 fatty acids. Not only do we not consume enough, many of our lifestyle practices also hinder their function in the body. For example, consuming damaged fat (found in hydrogenated oils and heated polyunsaturated oils) prevent omega-3s from being utilized. The U.S. diet has shifted away from two of the main sources of omega-3’s, which are fish and wild game. In addition, livestock no longer feed on omega-3-rich grasses; therefore, supplementation is becoming a sensible alternative. Studies have found that omega-3 fats may aid sufferers of mood and cognitive disorders. Some researchers believe EFAs help certain conditions by easing stress levels. Docosahexaenoic acid (DHA), an omega-3 fatty acid found in fish oil, is a primary building block of the brain. Adequate levels of DHA are necessary for proper neurotransmissions, and deficiencies of this essential fat have been linked to memory loss and depression. Eat wild, cold-water varieties of fish, such as herring, sardines, mackerel, salmon, and tuna. Make the effort to purchase fresh, wild fish versus...
farmed. The latter are usually fed pellets of corn, soy, and canola, which are not omega-3 building foods like algae and other marine vegetation. Try to add fish into your diet twice per week. If this does not work with your lifestyle, consider fish oil supplements that provide 2 to 4 grams of fish oil per day.\textsuperscript{15,16}

**5-HTP**: 5-Hydroxytryptophan (5-HTP) is the intermediate between tryptophan and serotonin. It is used by the body to make serotonin, an important substance for normal nerve and brain function. It has been shown that serotonin levels in individuals with depressed feelings are considerably lower than those in normal subjects. Individuals who respond to 5-HTP show a rise in serotonin levels similar to those with normal moods. Several studies have demonstrated improvements in people who did not respond positively to mood boosting prescription medications.\textsuperscript{17,18} A 5-HTP dose of 300 mg is sufficient in most cases of mood imbalances, but in some cases a higher dosage may be necessary.\textsuperscript{18} See the 5-HTP Fact Sheet for more information.

**Stress Reduction**: Reducing exposure to stressful situations can help decrease anxiety. In some cases, meditation, counseling, or group therapy can greatly facilitate this process.\textsuperscript{19} Regular \textit{aerobic exercise} is one of the best methods for reducing stress.

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\textsuperscript{9} Werback, Melvyn, M.D. \textit{Nutritional Influences of Mental illness}. Third Line Press. 1991.


\textsuperscript{14} \textit{Aging: Clinical and Experimental Research}, 1993, vol. 5, no. 2

\textsuperscript{15} Pepping, Joseph. Omega-3 essential fatty acids. \textit{American Journal of Health-System Pharmacy}, Vol. 56, April 15, 1999, pp. 719-24


\textsuperscript{17} Takahashi S., Kondo H. Kato N. Effect of L-5-hydroxytryptophan on brain monoamine metabolism and evaluation of its clinical effect in depressed patients. \textit{J Psychiatr Res} 1975; 12: 177-187
