

Enhanced formulation for liver and gallbladder detoxification

INDICATIONS:

- Hepatobiliary congestion
- Functional Dyspepsia
- Hepatitis or Cirrhosis
- Detox program adjunct

The liver is one of the body's key organs. It is the largest organ in the body and the most metabolically active. The liver is responsible for many functions, including storage of carbohydrates, vitamins & minerals; metabolism of hormones, endogenous wastes, & foreign chemicals; synthesis of blood proteins; formation of urea; metabolism of proteins, carbohydrates, & fats; formation of bile & gamma globulin; plus assimilation & storage of fat-soluble vitamins. It assists in the normal metabolism of foodstuffs, yet can be highly vulnerable to certain substances (e.g. alcohol, high fat foods, drugs and xenobiotics) that can potentially disrupt its critical functioning leading to hepatobiliary distress.¹

Although the liver is able to cope with this modern onslaught using the cytochrome system of detoxification, the liver's conversion of these toxicants to less noxious substances may lead to oxidants being produced which in turn can cause further liver damage.² Early clinical manifestations of this latter condition can take the form of: a feeling of bloatedness in the upper abdominal area, frequent burping, intestinal spasm, and a worsening of symptoms after eating fatty foods.³ The consequences of an ineffective liver are felt by all parts of the body. Symptoms of hepatic dysfunction include headaches, eczema, PMS, fatigue, cholestasis, allergies, constipation, and many others. In order to address these symptoms and assist the liver in its detoxification process, the complementary physician is able to turn to the nutritional and herbal cofactors provided by Biomed's Hepartox™. This formulation is capable of stimulating liver detoxification by promoting hepatocyte activity and greater circulation to the liver. Besides its detoxification attributes, Hepartox™ contains the lipotropic factors and herbs that act to protect the liver from further damage.

continued on back page



Each tablet contains:

Ingredients:	Mode of action
Vitamin B-6 (pyridoxine hydrochloride).....10 mg	Carbohydrates, fats and proteins metabolism
Vitamin B-12 (cyanocobalamin).....5 mcg	Carbohydrates, fats and proteins metabolism
Magnesium (oxide).....17.5 mg	Carbohydrates, fats and proteins metabolism
Celadine (Chelidonium majus).....333.33 mg	Cholagogue
Dandelion root50 mg (Taraxacum officinalis radix)	Cholagogue; bitter
Tumeric (Curcuma longa).....75 mg 3% curcuminoids	Cholagogue; antioxidant; anti-inflammatory
Wormwood (Artemesia absinthium).....100 mg	Bitter
Choline (bitartrate).....75 mg	Cholagogue
DL methionine.....175 mg	Cholagogue

Other ingredients: microrcrystalline cellulose, silicon dioxide.

Side effects: None

Contraindications: Do not use in individuals with known or suspected sensitivity to any of the above listed ingredients. Women who are pregnant or breastfeeding should not employ this product. In addition, those with gallstones or intestinal obstruction should avoid the use of cholagogues.

Warnings: This formula should not be employed for long time periods without the supervision of a practitioner. The use of celadine has been rarely associated with cases of acute hepatitis.^{4,5,6}

ADULT DOSAGE: Take two tablets two to three times a day with food or as directed by a practitioner

HEPARTOX™

Celadine (*Chelidonium majus*) is one of the key ingredients in this formula. European researchers have demonstrated that celadine is efficacy in treating the symptoms associated with functional epigastric. Their research found that after six weeks of therapy with celadine there was a significant reduction in flatulence, nausea, epigastric fullness, and stomach pains compared to placebo.⁷ The alkaloids in celadine (e.g. chelidonine) are responsible for relieving these latter symptoms as they exert a spasmolytic action on the smooth muscles of the biliary tract allowing for a sustained release of bile from the liver.⁸

Turmeric (*Curcuma longa*) and Dandelion Root (*Taraxacum officinalis*), like celadine also increase contraction of the gallbladder, thereby promoting bile flow.^{9,10} Dr. C Niederau and associates from the Gastroenterology Clinic at the University of Dusseldorf, Germany, concluded that a three week combination of both turmeric and celadine helped relieve the symptoms of colicky right upper quadrant abdominal pain in patients suffering from biliary dyskinesia.¹¹

Wormwood (*Artemisia absinthium*), a herbal bitter in HeparTox™, helps increase the production of gastric secretions, thereby assisting the digestive process.¹² As such, the German Commission E Monograph has concluded that wormwood is indicated in conditions involving loss of appetite, biliary dyskinesia, and dyspepsia.¹³

Vitamin B-6 is involved in the metabolism of fats and fatty acids, especially the essential unsaturated fatty acids. Vitamin B-6 is necessary in order for your body to produce lecithin, a lipid-transporting substance, used to clear fat from the liver. Birth control pills increase the risk of gallstones, which can be caused by oxalic acid toxicity. Vitamin B-6 detoxifies oxalic acid.

Vitamin B-12 is necessary for carbohydrate, protein, and fat metabolism. It is also important in the synthesis of DL methionine and choline. Because methionine is needed in choline synthesis, B-12 plays a secondary role in the lipid pathway. A choline deficiency that causes fatty liver can be prevented by vitamin B-12 and the other methyl donors (e.g. DL methionine). Vitamins B-6 and B-12 play a role in red blood cell formation, which takes place in the liver.

Magnesium has been shown to enhance enzymatic activity in the liver. In case studies, magnesium has been credited with dissolving gallstones. Alcohol consumption increases the dietary need for magnesium threefold. Studies have identified a link between magnesium depletion and liver cirrhosis.¹⁴

DL methionine, a lipotropic factor, acts as a methyl donor and antioxidant in liver tissues and aids healing and detoxification of these tissues. Its primary lipotropic function is to prevent excess fat accumulations in the liver by increasing lecithin production.

The evidence presented above substantiates why the combination of ingredients in HeparTox™ make it suitable for patients with a dysfunctional liver and gallbladder systems, needing to be restored.

References:

1. Mills S, Bone K. Principles and Practice of Phytotherapy. Edinburgh: Churchill Livingstone, 2000:190.
2. Ibid.
3. Robbers JE, Tyler VE. Tyler's Herbs of Choice. New York: The Haworth Press, 1999:72-73.
4. Benninger J, Schneider HT, et al. Acute hepatitis induced by greater celadine (*Chelidonium majus*). Gastroenterology 1999;117:1234-7.
5. Stickel F, Poschl G, et al. Acute hepatitis induced by greater celadine (*Chelidonium majus*). Scand J Gastroenterol 2003;38:565-8.
6. Greving I, Meister V, et al. *Chelidonium majus*: a rare reason for severe hepatotoxic reactions. Pharmacoepidemiol Drug Saf 1998;(Suppl 1):S66-9.
7. Ritter R, Schatton WFH, et al. Clinical trial on standardized celadine extract in patients with functional epigastric complaints: results of a placebo controlled double-blind trial. Comp Therap Med 1993;3:189-93.
8. Ibid.
9. Raysid A, Lelo A. The effect of curcumin and placebo on human gall-bladder function: an ultrasound study. Alimen Pharmacol Therap 1999;13:245-49.
10. Anonymous. *Taraxacum officinale* Monograph. Alt Med Rev 1999;4:112.
11. Niederau C, Gopfert E. [The effect of chelidonium- and turmeric root extract on upper abdominal pain due to functional disorders of the biliary system. Results from a placebo-controlled double-blind study] [In German]. Med Klin 1999;94:425-30.
12. Schulz V, Hansel R, Tyler VE. Rational Phytotherapy 3rd ed. Berlin: Springer Verlag, 1998:169-70.
13. Anonymous. The Complete German Commission E Monographs. USA: The American Botanical Council. Interactive Medical Communications, 1998:232.
14. Koivisto M, Valta P, Höckerstedt K, Lindgren L. Magnesium depletion in chronic terminal liver cirrhosis. Clin Transplant 2002; 16: 325-328. © Blackwell Munksgaard, 2002