

Prescription for a Healthy Liver

Liver Loving Vitamins, Herbs, and Lifestyles

By Michael Vertolli, Clinical Herbalist

March is a time of transition. The days are getting longer and winter is gradually giving way to spring. The spring equinox, which this year in our time zone occurs on March 20 at 7:08 pm (the calendars say March 21 because the equinox is at 12:08 am Greenwich Mean Time), is one of the two balance points in the year when the day and night are equal.

After the spring equinox the day force overtakes the night force. This means that our consciousness naturally shifts from a more inward and social orientation, to one that is more outwardly focused and individualistic. During the fall and winter months when the night force dominates, we tend to stay indoors and be more sedentary. Our body is also more inwardly focused and tends to build up layers of insulating fatty tissue. But when spring arrives, a shift occurs and our natural tendency is to burn off the excess fat and lighten up. At this time we go through a cleansing process.

When we accumulate fat, we also tend to accumulate toxins. Increasing our activity level and burning off fat in the spring provides us with an opportunity to eliminate some of that toxic burden. This natural cleansing process that occurs every spring is essential to the maintenance of long-term health.

When toxins accumulate in our body tissues and fluids, they are removed via the circulatory (blood and lymph) and eliminatory (kidneys, colon, skin and lungs) organs and systems of our body. However, the organ that is central to the entire detox process is our liver.

The liver is one of the most complex and diverse organs in our body. Directly or indirectly it is involved in virtually every physiological process. This organ is so important that it gets first choice to absorb nutrients from the blood flowing from our digestive tract, even before our brain!

Some of the processes performed by our liver include: digestion and metabolism of fats; conversion of some nutrients into forms that can be utilized by the rest of our body; manufacturing proteins that transport nutrients in our body fluids; metabolism of carbohydrates and maintenance of blood sugar levels; manufacturing cholesterol – an essential component of all membranes and necessary for the manufacturing of all steroids; maintenance of blood fluid volume; removing excess hormones from our blood; destroying worn out red blood cells; manufacturing proteins necessary for blood clotting; filtering our blood. Our liver also contains large populations of immune cells and is a major site of immune activity.

The Liver's Role in Detoxification

When it comes to detoxification, our liver has many important functions: it

manufactures lipoproteins which help to transport fat-soluble toxins that don't dissolve well in water (i.e. in our blood and lymph); breaks many toxins down into their less toxic components; converts some fat-soluble toxins into water soluble molecules that can more easily be eliminated in our urine and to some degree in our sweat; dissolves fat-soluble toxins that cannot be converted to a water-soluble form in bile and secretes them into the digestive tract so that they can be eliminated in our feces. In addition, bile produced by the liver has a natural laxative effect that facilitates general elimination of toxins and waste products via our colon.

Maintaining low levels of tissue toxicity is essential to health. This is not possible without a healthy liver. Unfortunately, excessive stress involving any of the processes with which our liver is involved will have a negative effect on all of its functions, including detoxification. It is therefore important that we make healthy dietary and lifestyle choices that support the health of our liver.

Liver Loving Nutrients

On the positive side, it is important to eat plenty of fruits and vegetables. Of particular importance are lemons and green leafy vegetables, especially those that tend to be on the bitter side such as rapini, mustard greens, Belgian endive, escarole, dandelion leaves and chicory leaves. North Americans tend to have an aversion to bitter flavours and these foods are generally lacking in our diet.

It is also important that we consume good quality essential fatty acids, especially omega 3; in my opinion, the best source is flax seed oil. Only use brands that are organically grown and manufactured using a process that minimizes exposure to heat, light and oxygen. Fish oils are not recommended because they tend to be high in toxins and are not manufactured appropriately. In addition, it is now recognized that there are no longer any wild fish species that can be harvested sustainably on a commercial scale. Extra virgin olive oil, although not a source of omega 3, is also beneficial for the liver.

It is also important that we eat certified organically grown food as much as possible to reduce exposure to agricultural chemicals, and try to be as active as possible including regular aerobic exercise (at least three times per week).

In terms of nutrients, ensuring adequate intake of all nutrients is important for the health of our liver, just like any other organ. However, of particular importance for liver function are all antioxidants, vitamins B12, folic acid and K, and the minerals selenium, zinc, copper and manganese.

Liver Stressors to Avoid

For improved liver health, reduce consumption of bad fats and oils (trans

fats/oils, rancid fats/oils and saturated fats of animal origin), high glycemic load foods (sweets, white flour products, whole grain flours that are not stone ground, polished grains, puffed grains, sweet fruit and vegetable juices, and dried fruits), hormones (water and food stored in plastic, commercially raised livestock, pesticides and herbicides, steroid drugs, oral contraceptives and hormone replacement therapies), medicinal and social drugs, agricultural chemicals and all other sources of toxins in our water, food, cosmetic products, cleaning products, home furnishings, building materials and chemicals used in the workplace.

Good quality organic fruit and vegetable juices, fresh squeezed whenever possible, and organic dried fruits are a healthy source of many important nutrients, but they should be consumed in small quantities and it's a good idea to drink some water afterwards to dilute the concentration of sugar in our digestive system. This will slow down the absorption of sugar a little. Also harmful are the high protein, low carbohydrate diets that have been in vogue over the last decade.

Fortunately they are starting to decrease in popularity. In general, it is best to focus on fresh, whole natural foods that are minimally processed, and minimize consumption of heavily processed, denatured food products like convenience foods and drinks, and dairy and meat imitation products, even if they are marketed as "natural."

All of the above put stress on our liver. It is up to us to decide how committed we are to living a healthy lifestyle. I don't recommend becoming neurotic about food choices. This only creates more stress for ourselves, which is counterproductive to our health and well-being. Everyone needs to lighten up now and then and sometimes that may involve eating or doing things that aren't exactly healthy, but if we are doing our best most of the time, it's OK to consciously "cheat" periodically, as long as we don't go to extremes. If we don't enjoy our lifestyle, what's the point? However, it is very important that we are able to find healthier ways to enjoy ourselves most of the time.

Liver Cleansing Herbs

There are many herbs that can help improve and optimize our liver function as well as assist this organ in its role in detoxification. In particular, there are three therapeutic categories of herbs that should always be included in formulations intended to support general liver function and/or its role in detoxification.

The first of these categories are the cholagogues. These are herbs that increase secretion of bile by the liver. This produces a mild laxative effect, thereby improving elimination via the colon, and also improves the digestion and absorption of fats and fat-soluble nutrients. Cholagogue herbs have a cleansing and decongesting affect on our liver and improve overall liver function. They also improve efficiency of elimination of fat-soluble waste

products and toxins. Some of the better cholagogue herbs include yarrow herb (*Achillea millefolium*), celery seed (*Apium graveolens*), burdock root (*Arctium spp.*), wormwood herb (*Artemisia absinthium*), white sagebrush herb (*Artemisia ludoviciana*), centaury herb (*Centaurea erythraea*), turmeric rhizome (*Curcuma longa*), yellow gentian root (*Gentiana lutea*), elecampane root (*Inula helenium*), white horehound herb (*Marrubium vulgare*), peppermint herb (*Mentha x piperita*), spearmint herb (*Mentha spicata*), yellow dock root (*Rumex crispus*), milk thistle seed (*Silybum marianum*), dandelion root (*Taraxacum officinale*) and ginger rhizome (*Zingiber officinale*).

Bitter herbs are also important for liver function. Although all bitter herbs are cholagogue, not all cholagogue herbs are bitter. When we create a formulation to support liver function, it is essential that the formulation is moderately bitter. Therefore, in choosing our cholagogue herbs we should include at least one herb that is a strong bitter or two herbs that are moderately bitter. We don't want all of our herbs to be moderately to strongly bitter because it will tend to make the formulation too stimulating for the liver, gallbladder and digestive system as a whole. It will also make our formulation unpalatable for most people. I have included many of the important bitter herbs among the cholagogues that are listed above. The herbs that are strongly bitter are wormwood, white sagebrush, centaury, yellow gentian and white horehound. Those that are moderately bitter are yarrow, celery, elecampane and yellow dock. Burdock, turmeric and dandelion are mildly bitter.

Liver Protective Herbs

Another therapeutic category of herbs important for the liver is the antihepatotoxic herbs (sometimes called hepatoprotectives). These herbs contain antioxidant constituents that have a strong affinity for the liver. They protect it from the harmful affects of toxins, help to prevent scar tissue formation (sclerosis) and may reduce it when it is already present, and have an overall healing effect on our liver. Some of the better antihepatotoxic herbs include garlic bulb (*Allium sativum*), celery seed, turmeric rhizome, rosemary herb (*Rosmarinus officinalis*), milk thistle seed and ginger rhizome. Burdock, elecampane and dandelion are also mildly antihepatotoxic, while garlic and rosemary are mildly cholagogue.

For the sake of completeness, there is a fourth category of herbs that needs to be considered. These are the carminatives. Carminatives are aromatic herbs that help improve general digestion, reduce gas and bloating, and reduce spasms and cramping in the digestive tract. They also have a balancing effect on the liver and entire digestive tract when combined with bitters. It is therefore best, when creating a formulation with some degree of bitterness, to include one or two carminative herbs in the formulation. Of the herbs mentioned above, those that are carminative are yarrow, garlic, celery, wormwood, white sagebrush, turmeric, elecampane, peppermint, spearmint, rosemary and ginger.

Finally, a good liver formulation requires at least one pungent or heating herb to help improve blood flow to this organ. Of the herbs indicated above, elecampane and rosemary are mildly heating; garlic and ginger are moderately heating. We don't want our formulation to be too hot. It is best to include one of the mildly heating herbs at a proportion of 20-30%, one of the moderately heating herbs at 10-15%, or a combination of one mildly heating herb at 10-15% with one moderately heating herb at 5-10%.

A good liver formulation will usually contain four or five herbs.

Creating and Using a Liver Loving Herbal Formula

Now you have the basic information needed to create a liver formulation. The next question is how to use it? Firstly, it is best if all of our herbs are certified organically grown or wild harvested. When using wild harvested herbs it is important that they come from a reputable source that harvests them in an ecologically sustainable manner. Only common herbs should be wild harvested.

Your formulation can be used as an infusion. In this case, the total amount of all herbs collectively per dose should be about two teaspoons steeped in 250-300 ml (8-10 ounces) of water. Steep them in a covered mug or pot for 15-20 minutes then strain and drink.

My preference is to use tinctures that have been manufactured using fresh herbs. In this case the total amount of your formulation per dose should be a bit more than the recommended dose for any of the herbs individually. The dose will depend on the potency. I usually use 1:5 tinctures. In this case the dose is 4-6 droppers or 3-4.5 ml. Add the tincture to 25-30 ml (one ounce) of water.

When using herbs in tincture form it is important that they are held in the mouth for a bit before swallowing. This is particularly important for bitter herbs. They are significantly less potent if we don't taste their bitterness. When using teas this isn't as important because it is impossible not to taste the bitterness with the larger volume that we are drinking.

A liver formulation should be taken three times per day on an empty stomach approximately 10-20 minutes before meals. For most people it is best to build up the dose gradually over a few weeks. Begin by using half of the recommended dose and add a bit more each week. Regardless of the unit dose, the herbs must be taken three times per day as indicated above.

The recommendations given here are completely safe for most people. However, they are not recommended for pregnant or nursing women, children under seven or seniors over seventy, anyone taking medications, with gall stones, or who has a serious liver illness. Anyone in these categories should consult with a qualified herbalist or other natural health

practitioner who has appropriate education and experience to work with herbs before using liver herbs. Anyone who follows these directions and experiences any unusual symptoms or an aggravation or lack of improvement in existing symptoms should stop taking the herbs and consult with a practitioner. These herbs are safe and effective when used correctly, but every case is unique and sometimes things may be more complex than they appear to be.

Our 21st century world and lifestyle put a lot of stress on our liver. A good liver formulation taken for a couple of months, once a year, is a good policy to help maintain our overall health. March and April are an excellent time of year to do this. Liver formulations will also help with many other health problems, especially relating to digestion and chronic inflammatory conditions. However, it is always easier to prevent illness than to treat it after the fact. This is something that has been largely lost with the more reductionistic perspectives on herbalism that tend to prevail at this time.

Herbs aren't just about treating diseases, they are very important tools that can help us to normalize and optimize our health. In our society our priorities are out of balance. Our health should be one of our highest priorities. If we devote an appropriate amount of time, energy and money into doing things that are good for us, there would be a lot fewer sick people around and our taxes could be spent on more important things like feeding the hungry and cleaning up the environmental mess we've made rather than propping up an inefficient health care system. The choice is ours to make.

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