

ALPHA LIPOIC ACID

Defending Your Liver

by Margy Squires

In 1977, a medical resident was attending to a critically ill couple in the emergency room. He was advised that nothing could be done and the couple would probably die since they had consumed the Destroying Angel mushrooms (*Amanita verna*). But the resident had studied mushrooms and remembered reading an article about a European “drug” that promised hope by helping the liver. The article cited a doctor at the National Institutes of Health. The resident called him, had the “drug” sent air-vac and administered it in time. The couple miraculously started recovering within hours.

The “drug” was alpha lipoic acid (ALA) and the resident was Burt Berkson. Dr. Berkson was later awarded the FDA investigational drug permit to study ALA. The following weekend he saved another couple from the same fate. In 1997, the first couple, livers still happy and well, joined Dr. Berkson in an interview with Dr. Julian Whitaker, a renowned natural medicine advocate, on his radio show. Dr. Whitaker was amazed that he had never heard of alpha lipoic acid. Today, ALA is still not a household word but word is getting around.

Poison mushrooms are not the only things that threaten your liver. Berkson states, “Today, humans are exposed to more toxic chemicals than at any other time...alpha lipoic acid is an indispensable ally in our attempt to keep ourselves healthy in a world whose stresses and pollutants work to make us ill.” ALA defends the liver, which is the organ that defends you.

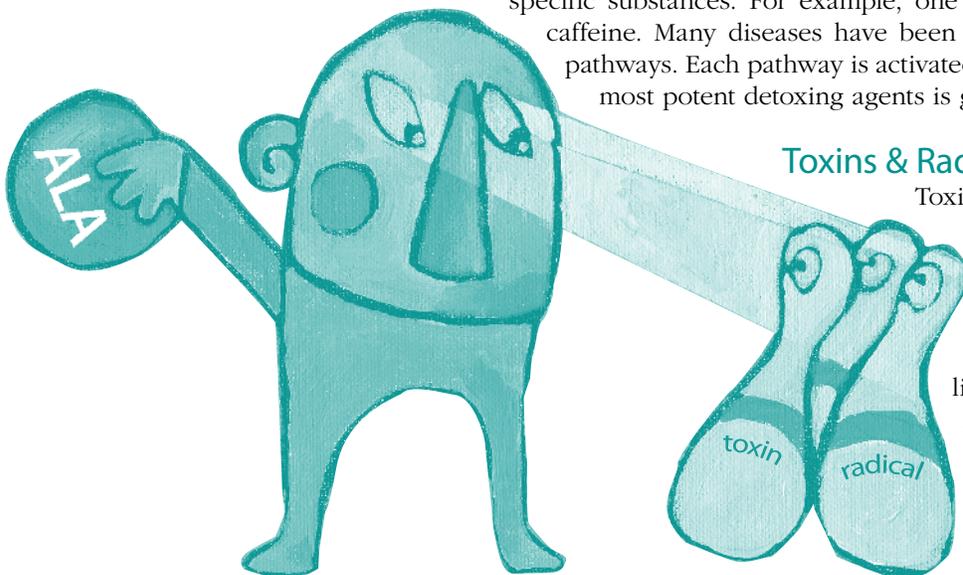
Leave it to the Liver

The liver performs about 500 different functions, more than any other organ. Some of its jobs are well known, such as making lipids (cholesterol, triglycerides, lipoproteins) and bile to break down fats. The liver stores blood and nutrients (vitamins A, D, B12 and the mineral iron), plus dismantles and recycles other substances (old red blood cells and excess hormones). The liver transforms fats, proteins and carbs into usable fuel from the foods you eat. One of the most critical jobs the liver does, however, is removing poisonous substances from the blood.

Toxins are everywhere, in the air you breathe, the food you eat and the water you drink. Anything that enters the body ends up in the blood, which eventually ends up in the liver. In fact, the liver filters approximately three pints of blood in a single minute! Although the two-phase process is much more complex than this article will relate, the liver detoxifies the blood by either eliminating the substances you cannot (or should not) use and recycles the ones you do. Many toxins are made water soluble and excreted through the kidneys in phase 1. Other more complex toxins are further broken down in phase 2. Phase 2 has six distinct detox pathways, each targeting specific substances. For example, one pathway may break down alcohol, another caffeine. Many diseases have been linked to malfunctions in the detoxification pathways. Each pathway is activated and regulated by specific agents. One of the most potent detoxing agents is glutathione.

Toxins & Radicals

Toxins damage cells in a similar fashion to free radicals, harming genetic material and causing cell death. Glutathione, found in high levels in healthy mitochondria (the cell's energy factories), protects the cell against free radical and toxic damage. In liver cells, glutathione helps to detoxify heavy metals, certain drugs and bacterial toxins, and is used up in the process. Glutathione is made right in the liver and one drug that blocks production is alcohol. Without



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Alpha Lipoic Acid *continued*

glutathione, one of the primary detox pathways is shut down. Notably, cirrhosis is linked to low glutathione levels.

Enter ALA, which increases glutathione levels 30-70% and even recycles used up glutathione. Both ALA and glutathione recycle vitamins C and E, two more antioxidants. By increasing the antioxidant power of glutathione, ALA helps liver cells recover from toxins. ALA also supports liver cells directly as an antioxidant. Cells have a protective lipid (fat-like) outside membrane and watery plasma inside. Unlike other antioxidants that are either fat or water soluble, ALA is both, meaning it can work inside and outside the cell. Inside, it protects genetic material in the nucleus and helps the mitochondria with energy; outside it protects the cell from oxidative damage. By defending liver cells, ALA defends the liver. If your liver could talk, it would ask for more ALA.

ALA: Liver Specific

Just as the heart requires CoQ10 as its main source of energy—and most CoQ10 is found in the heart—interestingly, ALA is found most abundantly in the liver. Do you think this is a coincidence? Unfortunately, the liver only makes a modest amount. If you assault the liver with more toxins than it can handle, you won't have enough. Like other nutrients manufactured in the body, levels decline with age, as early as age 40. You could try to get ALA from your diet but there are only small amounts in foods as well. Vegans would have to eat 500 pounds of spinach just to get one 100 mg capsule's worth! Supplementing seems more reasonable, doesn't it?

Lighten the Load

As remarkable as ALA is, the liver still needs help from you. Diet is one of the easiest ways to strengthen liver function. Eating healthy lowers the toxic load and provides foods that support the detox process. Certain plant nutrients found in wheat and barley grass, milk thistle, dandelion and chlorella are especially purifying to the liver. Drink plenty of distilled water. Essential fatty acids (EFAs) support phase 1. A multi-vitamin and mineral with bioflavonoids, B vitamins, and antioxidants offers necessary nutrient support.

Reduce detox obstructors and inhibitors. Phase 1 is slowed by excess hormones, hydrogenated fats, sugar, intestinal toxins (candida is one) and antidepressants. Other substances speed up phase 1—steroids, cigarette smoke, alcohol, high protein diets (like Atkins)—which may result in poor toxin break down and over dumping into phase 2. Besides causing cellular damage, if toxins are not broken down and excreted properly, they can accumulate in fat and muscle tissues. But with a few healthy changes and ALA, your liver can regenerate.

A Word on SSRIs

SSRI drugs inhibit the enzymes that the liver uses for detoxification. If you are taking SSRIs such as Paxil or Prozac, or multiple drugs, you may want to ask your doctor for a liver screening. Elevated liver enzymes are a sign of an inflamed liver or liver disease.

Non-Alcoholic Fatty Liver

Non-Alcoholic Fatty Liver Disease (NAFLD) occurs from a buildup of excess fat in the liver. It's currently the most common liver disease, affecting 25% of Americans, including children. Those at risk are overweight or obese (30 million), or have diabetes (26 million), high cholesterol (71 million) or high triglycerides (80 million). Over time and left untreated, the liver may develop Nonalcoholic Steatohepatitis, a disease that causes liver scarring, cancer or failure. Controlling lipids and insulin insult is a vital step. As a high energy producer, mitochondria play a central role in liver lipotoxicity. Both ALA and L-carnitine help the liver by reducing mitochondrial oxidative stress and are especially effective in combination.

Hepatitis C, Alcoholism & Celiac

Cirrhosis occurs from long-term insult to the liver by alcohol, infections (hepatitis A, B, C) and NAFLD. Hepatitis C is caused by exposure to body fluids or blood of an infected person and has no cure. Berkson treated patients with high dose ALA to restore normal or nearly normal liver function. Berkson suggests ALA may avoid liver transplant surgery! Finally, celiac disease carries the risk of celiac-induced hepatitis so liver monitoring is warranted.

Summary

You can help ALA defend liver function. Reduce your exposure to toxins. Eat healthy. Get plenty of rest. A suggested daily dose of ALA is 50 to 100 mg. For detox (especially hepatitis C), 600 mg a day in divided doses is used, given ALA's excellent safety record. There's no doubt that ALA defends your liver, and whatever benefits the liver will be felt system wide since blood goes everywhere. As Berkson says, ALA is a powerful ally in your quest for optimal health.

Caution: Do not take ALA if you are pregnant or nursing without your doctor's advice. Since ALA can lower blood sugar levels, diabetics may need less insulin.

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