Liver Health – Milk Thistle

While other herbs such as St. John’s wort and echinacea may appear in the news more often, Milk Thistle is actually the most researched and best understood of all the medicinal herbs. In fact, study after study has confirmed the most significant property of Milk Thistle: namely, the ability to protect and actually rejuvenate the liver.\textsuperscript{1,3}

And, while we know for certain Milk Thistle has been used medicinally to heal the liver since the middle of the first century, it wasn’t until the late 20th century that scientists understood how the key compounds in milk thistle behave in the body. These discoveries have allowed scientists to go the next step and combine milk thistle and its key compounds with other synergistic components for even greater and more potent health effects. When Milk Thistle is taken with other herbs such as dandelion, artichoke, and licorice, liver protection and bile excretion (important for lowering cholesterol levels) are enhanced. And when combined with the natural compound phosphatidylcholine (fos-fa-tid-al-ko-leen), in a patented process, Milk Thistle is better absorbed and remains active in the bloodstream for greater lengths of time.\textsuperscript{4-6}

In this issue of Ask the Doctor, we will talk about Milk Thistle, especially when combined with effectiveness-enhancing herbs and/or phosphatidylcholine, and its effect on the liver, a remarkable organ vital to our overall health.

Q. What does the liver actually do?
A. The liver is about the size of a football and weighs on average 3 and a half pounds, making it our largest internal organ. Our entire blood supply passes through the liver many, many times a day. The liver is incredibly complex and has a huge daily "to-do" list, including:

- Filter the blood for bacteria that enter our bodies every day
- Convert carbohydrates and proteins into fat, and store it for later use
- Make and secrete the bile needed in the digestion of fats
- Make urea from carbon dioxide and ammonia
- Produce hundreds of enzymes needed for digestion and other bodily functions
- Break down medications so we can use them effectively
- Metabolize alcohol and other harmful toxins
- Activate and metabolize hormones
- Produce clotting factors to help blood clot when we get a cut or scrape
- Make heparin to help keep blood from clotting while it circulates

Q. What exactly does Milk Thistle do for the liver?
A. The medicinal parts of the Milk Thistle plant are the seeds or fruits. Each Milk Thistle fruit is attached to a single strand of the pink tuft (similar
to way dandelion seeds are found floating in the air).

When they ripen, the fruits contain three powerful plant compounds collectively called silymarin (silymarin), one of the compounds in silymarin is called silibin. Milk Thistle works to help the liver in three ways.

First, Milk Thistle is a powerful antioxidant. Antioxidants protect us from chemicals in our bodies called free radicals. Exposure to cigarette smoke, exhaust fumes from cars, sitting in the sun, taking certain drugs, or being under stress can all increase free radicals in the body. Free radicals can do lots of damage to our cells (called oxidation) which can eventually lead to cancer, heart disease, and arthritis. One of the compounds in silymarin is called silibin. Milk Thistle can prevent or reduce medication induced liver damage.

Secondly, the silymarin in Milk Thistle protects the liver from harmful toxins and helps treat liver diseases. The silymarin in Milk Thistle helps people with Hepatitis B and Hepatitis C (serious liver diseases) get better. While silymarin cannot cure cirrhosis (a very destructive and often fatal liver disease), it can improve liver function in people with this serious disease. In fatty liver disease (often caused by excessive alcohol drinking and often leading to cirrhosis), silymarin can protect the liver from further damage.

And, while we don’t necessarily think of medications as “toxins,” many over-the-counter drugs and prescription medications can hurt the liver if taken in large enough doses or for long periods of time. Researchers have found that Milk Thistle can actually prevent or reduce medication induced liver damage.

Milk Thistle can even detoxify the deadly poison from the Amanita phalloides or Death Cap mushroom. The Death Cap mushroom (as its name implies) is one of the most poisonous mushrooms in the world, containing toxins that are particularly harmful to the liver. Accidentally eating this mushroom can cause severe liver damage and even death. Silymarin not only binds to the liver cells preventing damage from the mushrooms, it also neutralizes the deadly Death Cap poison.

HEALTH FACT: Milk Thistle’s silymarin actually helps the liver regenerate itself by stimulating the growth of liver cells to replace the parts of the liver that are damaged.

In general:

Q. Is Milk Thistle safe?
A. Milk Thistle is very safe to take. Studies have not shown any negative effects even when high doses were administered over a long period of time. However, a few people may notice some loose stools when they first start taking Milk Thistle. Cutting back on the dose generally stops this problem.

Q. How much Milk Thistle should I take?
A. Because our livers are so vital to our health, many of us could benefit by taking Milk Thistle even in the absence of liver disease. However, Milk Thistle is especially helpful if you:

- Are dieting
- Live in a large or polluted city
- Drive a car a lot
- Have your clothes dry cleaned
- Live or work in a building that has been freshly painted
- Use pesticides in your home or garden
- Take an over the counter medication, such as acetaminophen (Tylenol®), ibuprofen, or aspirin
- Take a prescription medication for anxiety, gout, pain, inflammation, cancer, HIV, TB, high cholesterol, depression, seizures, psychosis, infections, or to prevent pregnancy
- Have problems with digestion
- Have high cholesterol or triglyceride levels

Q. How much Milk Thistle should I take?
A. Milk Thistle is very safe to take. Studies have not shown any negative effects even when high doses were administered over a long period of time. However, a few people may notice some loose stools when they first start taking Milk Thistle. Cutting back on the dose generally stops this problem.

Q. How much Milk Thistle should I take?
A. Because our livers are so vital to our health, many of us could benefit by taking Milk Thistle even in the absence of liver disease. However, Milk Thistle is especially helpful if you:

- Eat fatty foods
- Smoke or live or work with a smoker
- Drink alcohol
- Are overweight

Conclusion
Diseases of the liver are most often quite serious. If you think you might have a problem with your liver, you need to see a qualified health care practitioner. If you have a diagnosis of liver disease, you need to work closely with your health care practitioner. Diseases of the liver can be prevented.

In general:
And, most importantly, take Milk Thistle every day to keep your liver as healthy as possible!

References
18. Bokemeyer C, Fels LM, Dunn T, et al. Silibinin protects against cisplatin-induced nephrotoxicity without compromising cisplatin or ifos-