Thus far, in our natural health discussions, we have attempted to cover several aspects of the detoxification process. Today’s talk is going to take us to another level. Today we are discussing the need for you to cleanse your liver.

As a compliment after the colon cleansing process, liver cleansing is the next step in several processes we are presenting. Cleansing your liver is one of the most powerful things you can do to improve on your body’s performance.

How do you know if you need to clean your liver? Just based on the S.A.D. (Standard American Lifestyle), all of us need to periodically go through a routine cleansing of our liver. But, if you have problems with serious fatigue, tend to gain weight easily, or you seem to retain water, taking time out to cleanse you liver will be a help to you. You will benefit from a periodic liver cleanse if you have gone to your physician and are diagnosed with fatty liver, cirrhosis of the liver, that you have elevated liver enzymes, or that you suffer from gallstones. Doing a liver cleanse through diet and supplements can help you avoid complications down the road.

Vital Functions of the Liver

Our great chemical factory, the liver, located on the right side of the body, is a complex organ that has many unique functions that keep us alive. It helps out in digestion and circulation, and it processes blood for our bodies. It is the second largest organ in our body and is dark red because of all the blood that flows through it. One big function the liver does for us is that it neutralizes toxins and waste. Just think, we breathe toxic air, eat foods sprayed with pesticides, smoke, drink, and use toxic chemicals to clean our homes and places of business. If the liver is working, it

The Miracle of Liver Cleansing

Carl J. Donaldson, Jr., ND, LMT

Glutathione is a powerful antioxidant that helps the body defend against toxicity, and it is most needed by those living with chronic liver disease. Because the stress of chronic liver disease also depletes this valuable antioxidant, learn why supplementing with one of its precursors helps defend against future liver damage.

A powerful antioxidant found within every cell in your body, glutathione has many supportive functions. One of glutathione’s best-known roles is to defend the cell it inhabits against damage from wastes and toxins. Since the hepatic cells of those with chronic liver disease are consistently stressed as they deflect poisons, the cells’ quantity of glutathione becomes even more important. Even used as an emergency medicine tactic, one of glutathione’s building blocks has been extensively revered for protecting the liver from damaging toxins.

Clinical studies have documented that glutathione is essential for detoxification and that its depletion is associated with increased risks of toxicity and chronic disease. As this antioxidant is depleted, the body has fewer resources to protect itself from oxidation – a process defined by unstable oxygen molecules damaging cell membranes. Needed by other antioxidants to scavenge and neutralize free radicals,
Miracle of Liver Cleansing (continued from page 1)

filters these toxins and attempts to keep them from building up in our body. While doing all of that, it also stores glycogen (a blood sugar regulator), amino acids, proteins, fats, vitamins and minerals. It metabolizes carbohydrates, hormones, internally produced waste, and foreign chemicals. It also stores fat-soluble vitamins. With all that the liver does its best to protect us from all of those potential killers, while sustaining and prolonging our lives.

The liver is very resilient. It has the ability to renew itself. It is able to recreate its own lost tissue in order to maintain function. When part of it is removed, it may grow back to its original size. Many of the toxic items mentioned earlier are carcinogenic, meaning that they cause cancer. So we need to periodically cleanse ourselves to improve the health of your liver. This would be an attempt at improving the health of your whole body.

One of the most important functions the liver does for us is to produce bile. Bile is a substance that is important for proper digestive break down of fatty acids. Bile is also involved in producing blood protein and enzymes. Enzymes are needed for digestion and other functions.

Liver Damage/Gallbladder Problems

How do we know when there is a problem with our liver? When the liver is showing signs of ware and tare there are symptoms that send signals to let us know. General fatigue, digestive problems, constipation, allergies, chemical sensitivities, weight loss, jaundice, edema, mental confusion, itching, nausea, or vomiting are some of the signs that the liver may be stagnated. These signs that show up may show up for varying reason: a poorly functioning liver, blocked bile ducts, autoimmune problems, metabolism problems, tumors, toxins, alcohol related problems, bacteria, parasites, or a virus (hepatitis B or C).

Another problem many experience is the problem of gallstones. You might ask what that has to do with the liver. Gallstones, which are formed in the ducts of the gallbladder, are lumps of solid material known as cholesterol or pigment stones. Those of the cholesterol variety account for approximately 80 percent of gallstone cases; these are often green, but can be white or yellow.

About 20% of the gallstones are pigment stones. They are small dark stones made up of calcium salts and bilirubin, which comes from the orange-yellow pigment of bile and the green fluid secreted by the liver to aid in digestion. Gallstones vary in size from the size of a grain of sand to the size of a crabapple. A person’s gallbladder can have several small ones or one large one.

Gallstones develop when cholesterol and other bile components collect in the gallbladder when our body is fasting, like when you are asleep or between meals. They form when there is an imbalance in the chemical formation. Cholesterol separates from the solution and forms crystals. Proteins in the liver can make it happen or prevent it from happening. Many scientists believe that our diet, body weight, gallbladder function, and genes determine if we are going to have gallstones. They also believe estrogen may be a factor for women developing gallstones. They may be brought on by the use of birth control pills, pregnancy, or hormone replacement therapy, which can raise the cholesterol levels in bile that will decrease the movement of gallstones through the body.

Signs and Symptoms of Gallstone Problems:

- Intense pain in the upper part of the abdominal area that persists for 20 minutes
- Back pain between the shoulder blades
- Pain under the right shoulder
- Vomiting and nausea sometimes occurs
- Pain close to the pelvis
- Abdominal pain
- Intolerance to fatty foods
- Belching
- Flatulence
- Indigestion

Liver Cleansing/Gallbladder Cleansing

As we said earlier, fortunately the liver has the great ability to regenerate itself. Unfortunately, most of us don’t give it a chance to do just that. The first thing we should do is cut back on the liver stressing diet most Americans consume. The second thing we need to do is to take time out to detoxify the liver and flush the gallbladder.

There are several nutrients that are required to detox the liver successfully. Beyond the standard antioxidants (Vitamin A, C, E, and Selenium) to prevent further damage of the liver, you need:

**Silymarin** (Milk Thistle) - proven to be one of the most potent liver-protecting substances known. Its main routes of protection is the prevention of free-radical damage, stabilization of plasma membranes, and stimulation of new liver cell production.

**Vitamin B complex** – found in large amounts in the liver, B complex, a group of vitamins (B1, B2, riboflavin; B3, niacin; B5, pantothenic acid; B6, pyridoxine; and B12, cyanocobalamin) help to process carbohydrates and fats, calms the nervous system, and helps to produce red blood cells.

**Folic acid.** Folic acid is an important member of the B-complex family, important for reducing harmful levels of homocysteine, a sulfur-containing amino acid, known to be a major culprit in heart disease. Decreased folic acid is also associated with an increase in oxidative stress (aging) to the liver.

**Choline.** Choline also stops fats from being deposited in the liver and helps move fats into the cells.

**Vitamin E.** Vitamin E protects the lipid membrane from oxidative damage. Adequate levels of vitamin E also protect cholesterol from oxidative damage.

Liver Cleansing cont. next page, col. 1
Throughout the ages there has always been a natural need to make things a little easier. From as far back as first having a fire to warm us, we learned to contain it in stones that radiated the heat leading to what most of us love and still call “The Fire Place”. Then, when workable metal came into existence (a very convenient invention in itself) we learned to fashion wood burning stoves. Heating with metal stoves was becoming a modern convenience and soon it was in almost all homes.

The old saying always held true, “Necessity is the mother of invention”. This concept was healthy, inspiring, good for the economy, and led to so many great things. (The industrial age of the 1890s to around 1950 was absolutely amazing!)

The basic necessities of life were always transportation, heating and cooling, storing food and water, and shelter from the weather. When we see such fine examples as automobiles, central heating and cooling, modern refrigerators, modern plumbing, and the beautiful and comfortable homes of today, it’s easy to say, “Convenience is not a curse at all but a blessing”; and we would be right!

It is fairly safe to say that today the necessities of life are well covered to where we can grasp any of them with ease. However, there is quite a difference between something that makes a necessity more convenient and something that makes the convenience itself, such as the ease of preparing a meal on a nice modern...

References:
glutathione is the body’s primary defender against oxidative stress. Many experts believe that a deficiency of hepatic glutathione is one of the leading contributors to the progression of liver disease.

Replenishing Glutathione
The evidence connecting glutathione depletion with a poor liver disease outcome is clear. To capitalize on this understanding, many educated people with liver disease have taken it upon themselves to increase their odds by fortifying their glutathione levels.

Although glutathione is available as an over-the-counter pill, its absorption into cells when taken orally has been repeatedly questioned. Most experts on glutathione supplementation suggest that people with chronic liver disease supplement with its amino acid building blocks. Because it is readily absorbed and rapidly metabolized to glutathione, N-Acetyl Cysteine (NAC) is the glutathione building block most favored by healthcare practitioners. In the case of an acetaminophen overdose, NAC is administered by physicians to detoxify the drug before it destroys too many liver cells and becomes fatal. In addition, NAC has been shown to increase blood glutathione in HIV-infected patients with low levels of glutathione due to their chronic infection.

Since the hepatic cells of people with chronic liver disease have to fend off more than their share of waste and toxins, their cells’ glutathione levels drain quickly. Unfortunately, this depletion makes them more susceptible to the advancement of liver disease. When the liver is consistently insulted, the facts support NAC Supplementation to replenish glutathione levels. Restoring glutathione levels is an effective way to refuel a person with liver disease’s ammunition, a replenishment that can help them defend against incurring any further liver damage.

Editor’s Note: Diabetes patients should check with their physician before taking NAC. Supplementing with NAC may disrupt insulin and interfere with its effectiveness.

References:
www.spinalrehab.com.au, Oxidative Stress in Chronic Liver Disease: The Role of Glutathione, Theodore Hersh, MD, MACG,
Microwave Ovens (continued)

stove, become unnecessary.

How lazy are we going to allow ourselves to get? Or even worse, how much of this wonderful life that we were created to enjoy (which includes using our brain and muscles once in a while) are we willing and wanting to give up? If this is not self-destruction, I don’t know what it is. We are trapped in a whirlwind moving faster and faster away from the life our bodies, souls and spirits were created to live in and the average person can’t even see it!

Well, on that moment of hope and delight in humanity, my wife just told me about a TV survey that she saw on “Good Morning America”: When asked what was most important in deciding “what to do for dinner” such as price, taste, nutrition, or convenience, an overwhelming 70% said convenience. The survey did not say but I suspect to most people that means popped in the microwave or a trip through a fast food place.

Now surely popping something in the microwave at home couldn’t hurt you even if there was no nutrition left in it, right? Wouldn’t they warn us or ban microwave ovens if eating food cooked in them was a major health threat? Well, the data may shock you but here are the facts...

This data has confirmed just about all my suspicions. I believe that the general obesity in this country, the lack of energy, and increased cancer along with all the new “designer diseases” i.e. Erectile Dysfunction etc. can be traced in part to our habit of using microwave ovens as the ‘lazy man’s way out of a little extra work’.

It turns out it was the Nazis who actually invented these ovens.

They were used in their mobile support calling them the “radiomissions”. These ovens were to be used for the invasion of Russia. By using electronic equipment for preparation of meals on a mass scale, the logistical problem of cooking fuels would have been eliminated, as well as the convenience of producing edible products in a greatly reduced time-factor.

After the war, the Allies discovered medical research done by the Germans on microwave ovens. These documents, along with working microwave ovens, were transferred to the United States War Department and classified for reference and “further scientific investigation”. The Russians had also retrieved some microwave ovens and now have thorough research on their biological effects. As a result, their use was outlawed in the Soviet Union (for a year or two). The Soviets issued an international warning on the health hazards, both biological and environmental, of microwave ovens and similar frequency electronic devices.

After the war, Dr. Percy Spencer, a self-taught engineer with the Raytheon Corporation, claimed to have "invented" the microwave oven in 1946. The Raytheon Corporation did actually file the first U.S. patent on one. The first ones were called Radar Ranges in 1954. Thank You Raytheon, but I like your missiles much better!

The following is a summary of the Russian investigations published by the Atlantis Rising Educational Center in Portland, Oregon.

Carcinogens were formed in virtually all foods tested. No test food was subjected to more microwaving than necessary to ac-
complish the purpose, i.e., cooking, thawing, or heating to ensure sanitary ingestion.

**Here's a summary of some of the results:**

* Microwaving prepared meats sufficiently to ensure sanitary ingestion caused formation of d-Nitrosodiethanolamines, a well-known carcinogen.

* Microwaving milk and cereal grains converted some of their amino acids into carcinogens.

* Thawing frozen fruits converted their glucoside and galactoside containing fractions into carcinogenic substances.

* Extremely short exposure of raw, cooked or frozen vegetables converted their plant alkaloids into carcinogens.

* Carcinogenic free radicals were formed in microwaved plants, especially root vegetables.

**How Microwave Ovens Work:**

All microwave ovens contain a magnetron which is a tube in which electrons are affected by magnetic and electric fields. They produce micro wavelength radiation at about 2450 Mega Hertz (MHz) or 2.45 Giga Hertz (GHz). This microwave radiation interacts with the molecules in food. The wave energy inside the oven changes polarity from positive to negative with each cycle of the wave. These changes of polarity happen millions of times every second. Food molecules (especially the molecules of water) have a positive and negative end just like a magnet has a north and a south polarity.

As these microwaves generated from the magnetron bombard the food, they cause the polar molecules to rotate at the same frequency millions of times a second. This is major agitation. (Much less agitation is used in pharmaceutical drug labs to separate or isolate molecules in the making of just about any thing they want). This agitation creates the molecular friction, which heats up the food. The friction also causes substantial damage to the surrounding molecules, often tearing them apart or forcefully deforming them. The scientific name for this deformation is "structural isomerism".

In *Comparative Study of Food Prepared Conventionally and in the Microwave Oven*, published by Raum & Zelt in 1992, it states:

"Production of unnatural molecules is inevitable. Naturally occurring amino acids have been observed to undergo isomeric changes (changes in shape morphing) as well as transformation into toxic forms, under the impact of microwaves produced in ovens. One short-term study found significant and disturbing changes in the blood of individuals consuming microwaved milk and vegetables. Eight volunteers ate various combinations of the same foods cooked different ways. All foods that were processed through the microwave ovens caused changes in the blood of the volunteers. Hemoglobin levels decreased and overall white cell levels and cholesterol levels increased. Lymphocytes decreased. Luminescent (light-emitting) bacteria were employed to detect energetic changes in the blood. Significant increases were found in the luminescence of these bacteria when exposed to blood serum obtained after the consumption of microwaved food."

In Dr. Lita Lee's book, *Health Effects of Microwave Radiation - Microwave Ovens*, and in the March and September 1991 issues of Earthletter, she stated that every microwave oven leaks electromagnetic radiation, harms food, and converts substances cooked in it to dangerous organ-toxic and carcinogenic products. Further research summarized in this article reveal that microwave ovens are far more harmful than previously imagined.

It makes absolutely no sense to me that our FDA is “looking out for us” and yet has not banned perhaps the worst cancer producing machines in history.
Eat All The Colors of the Rainbow

Red
Tomatoes, peppers, cranberries, raspberries, apples, beans, strawberries

Orange
Carrots, pumpkins, oranges, sweet potatoes, cantaloupe, peaches, apricots, mango

Yellow
Squash, corn, legumes, lemons, banana, eggs, grapefruit, mushrooms, pineapple, sesame seeds, macadamia nuts, cashews, peanuts, quinoa, chickpeas, almonds, pecans, walnuts, brown rice, ginger, beans

Green
Peppers, cabbage, beans, limes, spinach, kale, honeydew melon, avocado, pears, pesto, celery, zucchini

Purple
Blueberries, blackberries, currants, beets, red cabbage, eggplant

White
Potatoes, tofu, onions, garlic, whole oats, cauliflower

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