

# Liver

The liver has over 500 known functions. Even so, science has not discovered all the functions that must be performed by this, the largest organ of the body. Without his liver a person would die in a very short period of time. Fortunately, nature has seen fit to make the liver much larger than it needs to be to maintain life. Most authorities agree that the liver is approximately six times larger than necessary. In other words, you could function adequately with only 1/6 of your liver. Your liver also has very good rebuilding capabilities. Its size and rebuilding capability are very fortunate indeed, because the liver is greatly overworked in most people in today's civilized environment.

Let's differentiate two types of liver involvements. First – is frank pathology of the liver. This includes conditions such as infectious hepatitis, cirrhosis of the liver, fatty degeneration, and other frank disease processes of the liver. The other type of liver involvement – what we are concerned with in this pamphlet – is functional overload conditions which one day may turn into the death-causing liver disease processes. Unfortunately, when frank disease processes are present it is usually too late to reverse the condition and bring the liver back to normal function.

A liver that is overloaded and incapable of taking care of body needs can cause a wide variety of symptoms. This is because the liver has so many separate and distinct functions; it can affect health in many ways.

The liver has a very important role in digestive functions, especially in fat metabolism. But abnormal liver function, or an overworked liver, can affect any type of digestion. The liver eliminates poisons in the body by dumping them into the bowel via the bile. These toxic substances can interfere with normal digestive function in the bowel.

The liver removes many excess hormones in the body, helping to keep a hormone balance. For example, the anti-diuretic hormone (water retention hormone) is eliminated by the liver when excessive. If the liver is not functioning adequately an individual may see a swelling in his legs or abdomen due to water retention.

Some of the sex hormones are deactivated by the liver. Failure here can cause menstrual problems, change in secondary sex characteristics, etc.

There may be a disturbance in sugar handling as a result of liver dysfunction because the liver is a major sugar storehouse and is responsible for many sugar conversion factors within the body.

Improper utilization of vitamins, particularly the fat-soluble vitamins A, D, E and K, can be a result of improper liver function. Adequate absorption of these vitamins, as well as their storage, is dependent on the liver.

There are factors in blood coagulation that are developed in the liver. This can be observed in a tendency to bleed or bruise due to blood's poor clotting ability.

These are just a few of the liver's many, many functions. The symptomatic picture of live involvement may be severe fatigue, digestive disturbances, swelling, a constant chilled feeling, and poor appetite. There may be an inability to tolerate medications due to improper breakdown and elimination of the drugs, with an increased number of side effects noticed. Signs of many types of nutritional deficiencies may be apparent.

## **The Liver as a Detoxifier**

Removing poisons from your body is an extremely important function of your liver. In fact, this function is one of the main reasons the liver becomes overloaded in our modern civilization. Poisons may enter your body in many ways. You may inhale the poisons that you spray on your lawn, insecticides used in the house, chemicals that you contact at work or that you use in a hobby, such as photography. These are all known poisons, and we all try to avoid them as much as possible.

There are, however, many poisons that people do not realize are poisons to the body. Medications, even the non-prescription items purchased at the grocery or drug store and used so freely in our culture, are a significant extra load on the liver and can eventually be harmful.

Chemicals used as preservatives, stabilizers, artificial flavorings, artificial colorings, used to aid in the manufacturing of foods are all significant regarding liver function. A few of these chemicals would not be a problem to the liver, because of its tremendous ability to take poisons out of the system. However, there is a very significant cumulative effect from all the numerous chemicals taken into our bodies with our food supply.

When you add to this smog, aerosol sprays (perfumes, hair sprays, deodorants, room fresheners, insect repellants, ducting aids, etc.), alcohol, and many other and varied poisons in our environment, you can see how the "over-capacity" liver becomes overworked and ultimately is damaged.

Among the most significant poisons in today's society are the heavy-metal poisons such as lead, cadmium, arsenic, etc. Unfortunately, these deposit in the body and accumulate because they are very difficult to remove – even when your doctor prescribes a specific detoxification program. The federal government is working toward eliminating, or at least reducing, these heavy-metal poisons from our environment. An example is the new low-lead gasoline for automobiles, together with new pollution standards for automobiles now being manufactured. We must, however, work on an intensive basis to keep our bodies from becoming toxic with these items by avoiding them as much as possible.

### **Fat in the Liver**

The liver is a major storage area for carbohydrates and proteins. Ordinarily the liver stores very little fat; it should normally contain 3% to 5% fat. There are several reasons that too much fat or fat-like substances accumulate in the liver. People with poor protein intake have more fat in the liver because certain substances in protein are essential in breaking down fat. Without these substances, fat is deposited rather than used. On the other hand, too much protein in the diet causes a liver overload because the liver must eliminate the waste products from the protein breakdown. Consumption of too many refined carbohydrates and/or too much alcohol can cause an elevation of triglycerides. Triglycerides are fat in nature and accumulate in the liver, causing congestion and interference with normal liver function.

### **Testing for Liver Congestion or Overload**

Most laboratory tests for liver function are for frank liver disease processes. Of course it is important to be able to test for these disease processes; it is much better to be able to evaluate liver dysfunction in its early stages, before irreversible disease processes develop.

When the liver is overloaded and congested, the venous blood – blood that has circulated through the body and needs to be cleansed – cannot pass through the liver easily. Because of liver congestion, a back pressure develops on some of the venous system. You can easily observe this by pressing solidly with your finger between your shoulder blades. When you remove your finger from the skin, normal color should return rapidly. A white, blanched area remaining after the pressure is removed indicates poor circulatory flow and may possibly correlate with liver congestion. Visible or distended veins on the chest and abdomen are other indications of possible liver involvement.

The doctor using chiropractic testing methods has an advantage in observing for adequate energy patterns to the liver and for possible detrimental environmental involvement. Liver testing with chiropractic is accomplished by testing muscles that are on the same energy pattern as the liver. If the liver has a disturbed energy pattern, this disturbance “overflows” into a muscle associated with that energy pattern; the muscle will test

either too strong or too weak. By using this muscle strength as an indicator, the doctor can determine what nutritional complexes, dietary changes, or other treatment will be effective in improving liver function.

Because the liver is so important to so many different functions in your total health picture, it should be evaluated periodically to eliminate problems before they begin.

Remember, the liver is much larger than necessary for actual body needs. If a problem shows – even on a minimal level – the liver is already very significantly overloaded. Follow dietary, nutritional, and other treatment programs to keep this vitally important organ functioning normally, for a happier, healthier, longer life.