Liver Basics

The liver is the largest organ inside the human body. Weighing around three pounds, it is located in the upper right part of the abdomen.

We can't live without a functioning liver. It's the body's filter and warehouse. Everything goes through the liver, whether you eat it, drink it, breathe it or put it on your skin. Almost all cells and tissues in the body depend on the liver. When something goes wrong with the liver, it can have a serious effect on almost every other organ in the body.

A little more than 1.5 quarts of blood pump through the liver every minute, allowing it to quickly and effectively remove toxins and waste products from the bloodstream. At the same time, the liver stores important nutrients such as vitamins, minerals and iron. The liver also plays a role in managing levels of certain substances in the body, such as cholesterol, hormones and sugars, which are necessary for survival and are potentially harmful when out of balance. The liver also has a key role in digesting food because it produces bile. In addition, the liver controls blood-clotting factors, which prevent excessive bleeding.

The most remarkable feature of the liver is its power to regenerate. As much as three-quarters of the liver can be lost, and it can still grow new tissue and expand to its original size within several weeks. This means that people who need transplants may receive part of the liver from a living donor.

The liver is called a non-complaining organ because its cells do not have nerves. This is why you can have serious liver damage without knowing it. Some people feel discomfort in the liver area, which is usually caused by the capsule surrounding the liver, as well as from nearby organs.

Hepatitis A virus (HAV), hepatitis B virus (HBV) and hepatitis C virus (HCV) infect liver cells—called hepatocytes—that provide the best conditions for these viruses to reproduce. In response to the infection, the body's immune system targets the liver, causing inflammation (hepatitis). If the hepatitis is severe or goes on for a long period of time, hardened fibers can develop in the liver, a condition called fibrosis.

Over time, more and more normal liver tissue can be replaced by hardened scar tissue, which can obstruct the normal flow of blood through the liver and seriously affect its structure and ability to function properly. This is called cirrhosis. If the liver is severely damaged, blood can back up into the spleen and the intestines, which can result in high pressure in these organs. Consequences of

this condition—called portal hypertension—include bleeding (variceal bleeding) and fluid in the abdomen (ascites). Significant liver damage can also reduce the production of bile needed for proper digestion, and it can decrease the liver's ability to store and process nutrients needed for survival. Other effects of a damaged liver include the inability to remove toxins from the bloodstream, which can eventually lead to mental confusion and even coma (hepatic encephalopathy).

There are five viruses known to affect the liver and cause hepatitis: HAV, HBV, HCV, the delta hepatitis virus (HDV, which only causes problems for people infected with HBV) and hepatitis E virus (HEV).

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