

## Who Is At Risk for Liver Dysfunction?

01. People routinely consuming large amounts of overheated, hydrogenated, "junk food" fats--for example, french fries, fried chicken, doughnuts, chips, etc. These heated "junk foods" are a major source of liver-toxic lipid peroxides (rancid fats) and trans-fatty acids (abnormal structure fats). Lipid peroxides are powerfully immune suppressive, and damage liver cell membranes. Trans-fatty acids suppress production of PGE1, a major liver-protecting anti-inflammatory prostaglandin.

02. Coffee drinkers. Carcinogenic hydrocarbons are produced during roasting, and dark roasts are the worst offenders. Also, coffee is grown entirely outside the US and is often therefore sprayed with high levels of pesticides that are not even allowed to be used inside the US. Only a tiny fraction of coffee imported is checked for even some of the pesticides it is commonly sprayed with.

03. Regular alcohol users. The liver converts alcohol into toxic acetaldehyde during its alcohol toxification process. Acetaldehyde inhibits PGE1 production, is a powerful free radical inducer, and is largely responsible for the liver, brain, heart, kidney, skin and blood vessels lining damage associated with chronic alcoholism.

04. Smokers. While many people are aware of smoking's negative effect on the lungs, less consideration is usually given to its effects on the liver. Tobacco and marijuana smoke are rich airborne stews of toxic benzpyrene, polycyclic aromatic hydrocarbons, cyanide, acetaldehyde, tars, acrolein, etc. Since these get into the bloodstream through the lungs, the liver must detoxify them. And virtually all the constituents of smoke are known to be at least mildly liver-damaging.

05. People regularly driving on crowded, exhaust-filled roads and highways. Autos and diesel exhaust contain dozens of liver damaging poisons the liver is forced to detoxify including lead, sulfur, and nitrogen oxides, acetaldehyde, cadmium, peroxyacetylnitrile, and more.

06. Women using birth-control pills. In some cases, even as little as two or three weeks of use have been documented to ruin the ability of the liver to detoxify naturally produced estrogen. The livers of women on B vitamin/protein deficient diets may have difficulty metabolizing estrogen to non-toxic estriol, leaving it instead in the form of liver toxic estradiol. Estradiol is the form associated with hyper emotional states

including explosive temper and obsessive-compulsive tendencies.

07. Candida patients. Candida yeast ferments sugars into liver-toxic acetaldehyde in the process of turning sugar into energy. Candida also seems to increase gut and urinary levels of ammonia, another liver toxin.

08. Farm workers, produce handlers, and pest control workers are routinely exposed to higher than

normal levels of pesticides. Pesticides such as DDT, Aldrin, chlordane, lindane, 2,4,5T dioxin and toxaphene can cause chronic liver damage, even at body levels measured in parts per billion, and tend to accumulate in body fat over time.

09. Industrial and service workers routinely exposed to heavy metals (lead, cadmium, mercury), radioactive chemicals, hydrocarbon solvents such as sulfuric acid and mixes like piranha, TCE, paint sprays and beauty products.

10. Gas station workers and auto mechanics. Gasoline, diesel fuel, motor oil, degreasing agents, etc, are all liver toxic and may be absorbed through the skin or by inhaling them.