What is a fatty liver?
Fatty liver is not a disease, but a pathological finding. A more appropriate term is fatty filtration of the liver.

What causes fatty liver?
Fatty liver can be caused by certain chemical compounds, nutritional or endocrine disorders, and by genetic factors. Drugs and chemical compounds that can cause fatty liver include alcohol, tetracycline, methotrexate, valproic acid, cortisone and cortisone-like medications, carbon tetrachloride, and other solvents. Of these, alcohol is by far the most common cause. Liver inflammation may accompany exposure to these toxins and is responsible for the associated symptoms of fever, fatigue and jaundice.

Nutritional causes of fat in the liver include starvation, malnutrition or obesity. Fat in the liver can also occur with rapid or extreme weight reduction such as might occur following an intestinal or gastric bypass operation for obesity. In some patients with fatty liver the fat is accompanied by inflammation (steatop hepatitis), and occasionally the fat and inflammation may lead to scarring of the liver (fibrosis).

The endocrine causes of fatty liver include diabetes mellitus, elevated cholesterol or triglycerides and fatty liver of pregnancy. Fatty liver during pregnancy occurs near the end of pregnancy and may result in premature delivery or termination of the pregnancy.

How can fatty liver be identified?
Fat in the liver usually does not produce any specific signs or symptoms. Occasionally patients will experience a dull pain the right upper abdomen. Blood tests may reveal an elevation of the liver chemistries (SCOT or AST, SGPT or ALT, GGT, Alkaline phosphatase). A fatty liver may be detected on an ultrasound, CT or MRI examination of the liver. Confirmation of the diagnosis requires a liver biopsy. In mild cases, where the patient has no symptoms and the liver chemistries are normal or minimally elevated, a biopsy may not be required.

How does fat get into the liver?
Fat enters the liver from the intestines after being digested and modified by the cells lining the intestinal wall. Fat derived from fatty tissues elsewhere in the body may also enter the liver. Patients unable to break down or process fat being transported to the liver can develop abnormal fat accumulations within liver cells and the entire liver (steatosis).

Can fatty liver lead to other liver disease?
Fatty liver associated with alcohol ingestion can progress to more severe disease including alcoholic hepatitis and cirrhosis.

In people who do not drink, fatty liver associated with inflammation and scar tissue, non-alcoholic steatohepatitis (NASH), infrequently leads to cirrhosis.
How is fatty liver treated?
Treatment of fatty liver depends on the cause. A fatty liver due to alcohol can be reversed if alcohol ingestion is stopped. Likewise, a fatty liver caused by drug ingestion or chemical exposure can be reversed if the drug is stopped or the chemical exposure is stopped.

Fatty liver due to obesity is best managed with a program of weight reduction, consisting of a nutritious low fat diet and exercise. In patients with diabetes, fatty liver is managed with diet and better control of blood sugar. In individuals with elevated cholesterol or triglycerides, diet therapy is prescribed first. Patients not responding to diet and in those with severe elevations of cholesterol and triglycerides, specific medications to reduce these levels may be prescribed. Nicacin is generally avoided because of its tendency to cause liver test elevations by itself. Some patients may be treated with dietary supplements. L-carnitine may enhance fat metabolism by the liver, whereas lecithin may prevent some of the tissue damage caused when oxygen reacts with fat during routine chemical reactions in the liver (lipid peroxidation).

Since many medications can cause liver test abnormalities close follow-up with a physician is recommended.

How can I avoid fatty liver?
Do not drink to excess.

Watch your diet.
In particular, avoid concentrated sweets, saturated fats and foods high in cholesterol (heart healthy diet); whenever possible use monosaturated fats (olive oil or canola oil) instead of polyunsaturated fats.

Seek medical advice?
Your physician or a nutritionist working with a physician can guide you as to appropriate diets to follow. Multi-vitamin supplements and vitamin E (<1000 IU day) may be used. Avoid large doses of vitamin A. Vitamin A in large doses can cause liver damage.