

## Nonalcoholic Fatty Liver Disease

Nonalcoholic fatty liver disease (NAFLD) refers to hepatic steatosis, or fatty infiltration of hepatocytes, in the absence of any known secondary cause, namely alcohol consumption. Common risk factors include obesity, hyperlipidemia, and diabetes. Most patients are asymptomatic and are found to have NAFLD incidentally when blood work reveals elevated liver enzymes, though some may complain of vague right-upper quadrant abdominal pain. The diagnosis is typically confirmed on ultrasound. Once confirmed, treatment typically consists of lifestyle modifications involving diet, weight loss, and abstinence from alcohol. Progression of NAFLD may lead to cirrhosis.



PLAY PICMONIC

### Characteristics

#### Fat Infiltration of Hepatocytes in Absence of Alcohol Consumption

##### Fat burgers next to liver

NAFLD is characterized by fatty infiltration of hepatocytes without a known history of alcohol consumption, as alcohol consumption is the other main known causative agent of fatty infiltration of hepatocytes.

#### Obesity

##### Obese person

Obesity is a known risk factor for NAFLD. The definitive mechanism is not established, but in general it is thought that defective fatty acid metabolism, which may be related to both obesity and fatty infiltration of hepatocytes, is an underlying factor.

#### Hyperlipidemia

##### Hiker-lips

Hyperlipidemia is a known risk factor for the development of NAFLD. This is likely related to impaired metabolism of fatty acids, which is related to both hyperlipidemia and fatty infiltration of hepatocytes.

#### Type II Diabetes

##### Dyed-bead pancreas tutu

Insulin-resistant diabetes (Type II) is a known risk factor in the development of NAFLD. This is because insulin plays a role in the metabolism of fatty acids, which becomes impaired in insulin-resistant individuals. Patients with Type I diabetes who take insulin are not resistant to its effects and therefore do not have the same risk.

### Diagnosis

#### Often Found Incidentally

##### Surprised doctor with magnifying glass

Patients with NAFLD are often asymptomatic unless/until they develop severe liver disease or cirrhosis.

#### Elevated Liver Enzymes

##### Up-arrow Liver

NAFLD is often found incidentally when routine labs reveal elevated liver enzymes in an otherwise asymptomatic patient with no known viral hepatitis or significant alcohol consumption.

#### Ultrasound

##### Ultrasound machine

To definitively diagnose suspected NAFLD, an ultrasound is often obtained, showing increased echogenicity of the liver tissue. CT and MRI may also be used, though these are more expensive and less often used.

## Treatment

### Weight Loss

[Woman in loose-fitting pants](#)

Weight loss with exercise and diet is advised in patients found to have NAFLD.

### Abstinence From Alcohol

[No-sign martini](#)

Patients confirmed to have NAFLD are advised to minimize alcohol use, as this may worsen their disease progression.