

Understanding cirrhosis

Assessing liver fibrosis helps determine whether the patient could have cirrhosis. Cirrhosis is a histological diagnosis indicating liver disease with necrosis, collapse of architecture, regeneration, and fibrosis surrounding nodules of liver tissue. Cirrhotic status determines treatment regimen and length of treatment, and determines whether the patient needs specialist care.

Assessing severity

Assessing the severity of liver disease is not an exact science, but we can make an excellent attempt if we have:

- A good history to identify risk, likely duration, confounding factors, current symptoms
- A good physical examination to document any evidence of advancing liver disease
- An understanding of liver function tests and consistent use of these for diagnosis and monitoring
- An understanding of other investigations, which may provide insights into disease severity and/or the nature of the factors contributing to the presentation.

In the presence of cirrhosis and portal hypertension, hypersplenism develops and this leads to reduced haemoglobin, white cell count and platelet count (pancytopenia). In many, the platelet count falls first and a count of $< 100,000$ is a surrogate marker of cirrhosis reflecting both the hypersplenism and a reduced production of thrombopoietin by the damaged liver.

Types of cirrhosis

In compensated cirrhosis, the patient is asymptomatic and no complications have occurred.

Decompensated cirrhosis shows the presence of complications of liver dysfunction and/or portal hypertension. Symptoms include:

- Jaundice
- Hepatic encephalopathy
- Ascites and peripheral oedema
- Variceal haemorrhage



Lab markers of cirrhosis

Blood tests can help identify cirrhosis. Common markers include:

- Lower albumin, total protein
- Lower platelets
- Increased globulin
- Prolonged INR or PT
- Increased bilirubin
- Liver enzymes elevation AST>ALT

Low albumin and platelets <150 are early markers of cirrhosis.

How to assess

Cirrhosis can be assessed through FibroScan® and APRI scores, described in the **HCV Testing** resource.

The Child-Pugh score is a scoring system that can also be used to measure the severity of chronic liver disease inclusive of cirrhosis. A higher score indicates worsening liver function. The score is calculated using several categories:

- total bilirubin, µmol/l (mg/dl)
- serum albumin, g/l
- INR
- presence of ascites
- presence of hepatic encephalopathy

Due to the complexity of managing cirrhosis, it is recommended that patients are referred for assessment by a specialist who is an expert in the care of people with chronic liver disease, and that they are treated in active collaboration with HCV treatment experts.

Co-factors in the development of cirrhosis

- Heavy alcohol intake (>4 standard drinks per day)
- Co-infection with HIV or HBV
- Obesity
- Insulin resistance and/or metabolic syndrome
- Autoimmune liver disease – AICAH, PBC, PSC
- Metabolic disorders – haemochromatosis, Wilsons
- a-1 antitrypsin deficiency
- Primary biliary cirrhosis, primary sclerosing cholangitis, biliary atresia
- Chronic inflammatory conditions (e.g. sarcoidosis)