

## **Abnormal Liver Function Test (LFT) Results**

Developed by	American Gastroenterological Association (AGA) and the American Association for the Study of Liver Disease (AASLD)
How developed	A consensus panel was convened by the two organizations. Literature was reviewed (see below) and recommendations were established.
	<ul> <li>Pratt DS, Kaplan MM. Evaluation of abnormal liver-enzyme results in asymptomatic patients. N Engl J Med 2000; 342:1266.</li> </ul>
	• Freidman LS. Approach to the patient with abnormal liver biochemical and function tests. Up to Date; November 12, 2013.
	<ul> <li>Daniel S, Ben-Menachem T, Vasudevan G, et al. Prospective evaluation of unexplained chronic liver transaminase abnormalities in asymptomatic and symptomatic patients. Am J Gastroenterol 1999; 94:3010.</li> </ul>
	<ul> <li>Ruhl CE, Everhart JE. Upper limits of normal for alanine aminotransferase activity in the United States population. Hepatology 2012; 55:447.</li> </ul>
	• Sorbi D, McGill DB, Thistle JL, et al. An assessment of the role of liver biopsies in asymptomatic patients with chronic liver test abnormalities. Am J Gastroenterol 2000; 95:3206.
	<ul> <li>Minuk GY. Canadian Association of Gastroenterology Practice Guidelines: evaluation of abnormal liver enzyme tests. Can J Gastroenterol. 1998 Sep;12(6):417–421</li> </ul>
	<ul> <li>Friedman LS, Martin P, Munroz SJ. Liver function tests and the objective evaluation of the patient with liver disease. In: Zakim D, Boyer TD, ed. Hepatology: a textbook of liver disease. Vol 1. Philadelphia, WB Saunders, 1996: 791–833.</li> </ul>
	• Limdi JK, Hyde GM. Evaluation of abnormal liver function tests. Postgraduate Medical Journal 2003; 79(932): 307-312.
	• Green RM, Flamm S. AGA technical review on the evaluation of liver chemistry tests. Gastroenterology 1 Oct 2002; volume 123 issue 4: 1367-1384.
Additional essential patient information	Clinical history of liver disease
	<ul> <li>Duration of abnormal LFTs</li> </ul>
	<ul> <li>Prior history of hepatitis or liver disease?</li> </ul>
	<ul> <li>Does the patient have associated abdominal pain?</li> </ul>
	<ul> <li>Does the patient engage in high-risk behavior? (e.g. alcohol abuse, multiple sexual partners, IV drug use, etc.)</li> </ul>
	<ul> <li>List any new medications or supplements?</li> </ul>
	Laboratory studies
	CBC including platelet count
	<ul> <li>Complete metabolic profile (electrolytes, renal function, AST, ALT, Alkaline Phosphatase, Bilirubin)</li> <li>Protime/INR</li> </ul>



## Abnormal Liver Function Test (LFT) Results (continued)

Additional patient information, if available	<ul> <li>Clinical history <ul> <li>Has the patient previously been vaccinated for Hepatitis A? {yes/no}</li> <li>Has the patient previously been vaccinated for Hepatitis B? {yes/no}</li> <li>Has the patient previously been treated for Hepatitis B or C? {yes/no}</li> <li>If yes, which medications and when</li> </ul> </li> <li>Laboratory Tests <ul> <li>Acetaminophen level</li> <li>ANA</li> <li>AMA</li> <li>Anti-smooth muscle antibody</li> <li>Alpha-1 antitrypsin</li> <li>Ceruloplasmin</li> <li>Hepatitis A serologies (HAV total, IgG Ab, or IgM)</li> <li>Hepatitis C antibody</li> <li>Hepatitis C antibody</li> <li>Hepatitis C antibody</li> <li>Hepatitis C genotype</li> <li>Iron and TIBC</li> <li>Ferritin</li> <li>Liver/kidney microsomal antibodies</li> <li>TIBC</li> <li>HIV</li> <li>Toxicology screen</li> <li>TSH</li> <li>Quantitative immunoglobulins</li> </ul> </li> <li>Paracentesis results</li> <li>Imaging studies</li> <li>RUQ Ultrasound with dopplers</li> <li>Abdominal MRI</li> <li>Liver Elastography</li> <li>Nuclear scan</li> </ul>
Alarm symptoms/conditions	A patient with encephalopathy, gastrointestinal bleeding, coagulopathy or worsening ascites with pulmonary compromise should be referred for urgent evaluation.
Tests/procedures to avoid prior to consult	None provided
Common rule-outs to consider prior to consults	None provided
Relevant "Choosing Wisely" elements	None provided



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Healthcare professional and/or patient resources	Healthcare Professional Information
	http://www.uptodate.com/contents/approach-to-the-patient-with-abnormal- liver-biochemical-and-function-tests
	http://www.bcguidelines.ca/pdf/liver.pdf
	http://www.gastrojournal.org/article/S0016-5085(02)00240-8/fulltext
	Patient Information
	http://www.uptodate.com/contents/toxic-hepatitis-the-basics
	http://www.patient.co.uk/health/liver-function-tests
	http://www.medicinenet.com/liver_blood_tests/article.htm
	http://www.webmd.com/a-to-z-guides/liver-function-test-lft