

Laboratory Testing For Acute Viral Hepatitis

The Clark County Health District Office of Epidemiology is mandated by the Nevada Revised Statute (441A) to report all acute cases of viral hepatitis. The clinical case definition for acute viral hepatitis given by the Centers for Disease Control and Prevention is “an illness with a discreet onset of symptoms, and jaundice or elevated serum alanine aminotransferase (ALT, formerly known as SGPT).” An abnormally high ALT level is often the first indication of liver inflammation and is an important factor in the diagnosis of acute viral hepatitis. If ALT is elevated and all viral hepatitis markers are negative, it may be advisable to repeat the hepatitis profile at a later date. A normal ALT level in a patient who is IgM positive or borderline for hepatitis A may indicate recent immunization.

For ease of ordering, many laboratories offer hepatitis test profiles instead of individual tests. These profiles are used to determine whether cases are acute or chronic. Associated Pathologists Laboratories (APL) currently offers the hepatitis profiles shown in the table below. The ALT test is not included in the Acute Hepatitis Profile, but health care providers can request it separately.

	Hepatitis A	Hepatitis B	Hepatitis C
Acute Hepatitis Profile	IgM Anti-HAV	HBsAg IgM anti-HBc	Anti-HCV *
Hepatitis Profile	(IgM and IgG)Anti-HAV ALT / SGPT	HBsAg Anti-HBc Anti-HBs ALT / SGPT	Anti-HCV ALT / SGPT

HEPATITIS A VIRUS (HAV): At the onset of symptoms, **IgM anti-HAV** antibodies are detectable. The finding of IgM anti-HAV is highly diagnostic of current or very recent HAV infection in symptomatic patients. IgM antibodies reach maximum titer in one to three weeks, and fall to undetectable levels in three to six months. IgM is replaced by IgG that persists for years, perhaps for life. A positive total test (**IgM and IgG anti-HAV**) indicates infection with HAV at some point in time.¹

HEPATITIS B VIRUS (HBV): HBV surface antigen (**HBsAg**) is the hallmark of current or recent infection. It is the first marker to appear during the incubation period and might last six months to several years after initial infection. Antibody against the HBV core (**anti-HBc**) is the first antibody produced, appears during the acute infection in high titer and persists for years. The presence of antibody (**anti-HBs**) against the HBV surface antigen signals the late stages of disease and the development of immunity.¹

HEPATITIS C VIRUS (HCV): Currently, the most commonly ordered diagnostic test for HCV is a total antibody test (**anti-HCV**). *Additional testing, usually by RIBA or nucleic acid detection of HCV RNA, is necessary to confirm the diagnosis of HCV.¹

Reference: 1. Keffe EB: Acute Hepatitis. Scientific American Medicine, 2001. Vol I, 4, VII p. 1-9 (3/1999)

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