

Appendix 1

Key Serologic Markers of Hepatitis B

HbsAg - Hepatitis B surface antigen	<ul style="list-style-type: none"> • Indicates current or a chronic carrier state. • Is generally the first detectable serologic marker. • In acute infection, precedes increases in aminotranferases (liver enzymes) and clinical signs by up to one month. • Generally ceases to be detectable within 6 months; stays present longer in a chronic carrier state.
Anti-HBs - antibody to Hepatitis B surface antigen	<ul style="list-style-type: none"> • Indicates immunity to the virus acquired as a result of previous infection or vaccination. (Vaccination induces the presence of anti-HBs, not of anti-HBc) • Is detectable a few weeks after the disappearance of HbsAg. • Persists for many years. • Is present temporarily (a few months) after the administration of Hepatitis B immune globulin (HBIG)
total anti-HBc – antibody to Hepatitis B core antigen	<ul style="list-style-type: none"> • Becomes positive shortly after the start of clinical signs, or 1-4 weeks after the appearance of HbsAg. • Precedes the appearance of anti-HBs by several weeks to several months. • Indicates recent or previous infection. • Is generally detectable for life.
IgM anti-HBc	<ul style="list-style-type: none"> • Indicates acute or recent infection • Is generally present during the first 3-6 months after an acute infection
HbeAg : Hepatitis B e antigen	<ul style="list-style-type: none"> • Indicates maximum contagiousness • Appears shortly after the appearance of HbsAg: indicates an intense viral replication phase. • Normally persists for 3-6 weeks during the acute hepatitis but can remain present much longer during chronic hepatitis.
Anti-Hbe : antibody to hepatitis B e antigen	<ul style="list-style-type: none"> • In the presence of HbsAg, indicates less contagiousness than the presence of HBeAg

Table 2: Interpretation of Serologic Test Results for HBV

HBsAg	Anti-HBc IgM	Anti-HBc Total	Anti-HBs	HBV DNA	Interpretation
+	-	-	-	n/a*	Early HBV infection before anti-HBc response, or transiently seen in early response to immunization
+	+	+	-	n/a	<ul style="list-style-type: none"> • Early HBV infection • Since anti-HBc IgM is positive, the onset is within six months • IgG antibody usually appears shortly after IgM; therefore, both are usually positive when IgM is positive. (Acutely infected)
-	+	+	- or +	n/a	<ul style="list-style-type: none"> • Recent acute HBV infection (within four to six months) with resolution; i.e., HBsAg has already disappeared • Anti-HBs usually appears within a few weeks or months of HBsAg disappearance
+	-	+	-	n/a	<ul style="list-style-type: none"> • HBV infection onset at least six months earlier because Anti-HBc IgM has disappeared • Probable chronic HBV infection (chronically infected)
-	-	-	+	n/a	<ul style="list-style-type: none"> • Response to hepatitis B vaccine • No evidence of infection
- or +	-	+	-	+	Chronic HBV infection
-	-	+	+	n/a	Past HBV infection, recovered (immune due to natural infection)
-	-	+	-	-	Four possible interpretations; may be:** <ul style="list-style-type: none"> • recovering from acute infection • distantly immune from past infection and the test is not sensitive enough to detect a very low level of Anti-HBs • susceptible with a false positive Anti-HBc • chronically infected and have undetectable level of HBsAg

* n/a = not routinely performed as part of public health follow-up

** Consultation with a specialist is recommended for interpretation and diagnosis