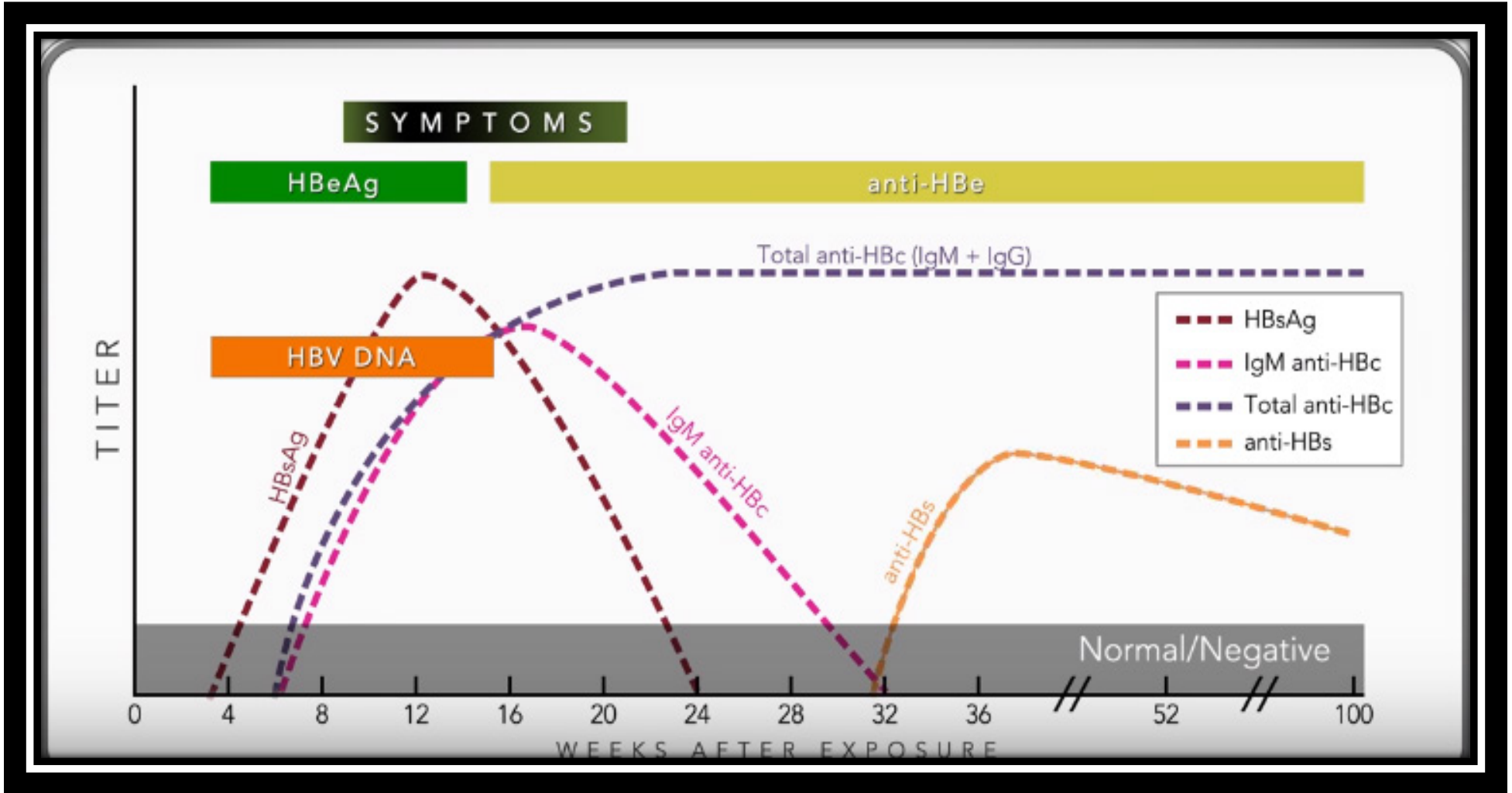


# Acute Hepatitis B Serologic Course



Source: CDC - <http://www.cdc.gov/hepatitis/Resources/Professionals/Training/Serology/training.htm>

# HEPATITIS B SEROLOGY

Classification	HBsAg	Anti-HBc	IgM anti-HBc	HBeAg	HBeAb	HBV DNA	Anti-HBs
Acute Infection	+/- (1)	+	+	+	-	+	-
Chronic Infection	+	+	-	+	-	+	-
Past Infection	-	+	-	-	+	-	+
Healthy Carrier	+	+	-	-	+	+	-
Immune-Vaccinated	-	-	-	-	-	-	+

1. May be negative in acute infections where HBsAg is below the limit of detection (4-9 weeks post exposure)

- **Hepatitis B surface antigen** – Indicates that the patient is currently infected; its persistence for 6 months or longer indicates chronic infection. (it's also the active component in the vaccine and testing will detect the vaccines synthetic protein in small amounts (resulting in false positives) in recently vaccinated patients.
- **Hepatitis B surface antibody** – Antibody to HBsAg and indicates the person has recovered from and has immunity to Hepatitis B. Anti-HBs also develops in a person who has been successfully vaccinated against Hepatitis B. Levels will wane over time and may eventually become undetectable this does not indicate a loss of immunity (anamnestic response).
- **Total Hepatitis B core antibody** – Appears at the onset of symptoms in acute Hepatitis B and persists for life. The presence of **anti-HBc** indicates previous or ongoing infection with Hepatitis B in an undefined timeframe.
- **IgM antibody to Hepatitis B core antigen** – Shortened to **IgM anti-HBc**, testing positive for IgM antibody to Hepatitis B core antigen indicates a recent (<6 months), acute infection with the virus.
- **Hepatitis B envelope antigen** – Found during acute and chronic Hepatitis B infection. A (+) HBeAg test indicates active **viral replication** and generally equates to high HBV DNA levels which translates to increased infectiousness.
- **Hepatitis B envelope antibody** – Produced by the immune system in response to the HBeAg during or after HBV replication. A person who converts (seroconversion) from HBeAg (+) to HBeAb (-) is associated with decreased HBV DNA levels and are more likely to achieve **long-term clearance**.

Link to CDC Tutorial on Hepatitis B Serology: <http://www.cdc.gov/hepatitis/Resources/Professionals/Training/Serology/training.htm>