Testing and interpretation for SUSPECTED acute HBV infection

**Hep B surface Ag** ordered as part of compatible clinical syndrome; include IgM anti-HBc and anti-HBs when ordering

- **IgM anti-HBc** (Negative result does not rule out acute infection)
  - +: Acute Infection (-90% of acute infections resolve spontaneously over 6 months)
    - Seek Expert Consultation
  - -: Chronic active if HBsAg + for > 6 months (see Chronic HBV algorithm)*
    - Check total AND IgM anti-HBc (if not already done as part of panel)
      - + total, - IgM: Check anti-HBs
        - +: Vaccinate
        - -: Immune
      - - total and IgM: Seek Expert Consultation

- Interpreting IgM anti-HBc result (Can take up to 7 weeks to become + after HBsAg appears)
  - +: Very early acute infection OR HBsAg is false +
    - Seek Expert Consultation
  - -: Resolved infection

- **Check total anti-HBs**
  - +: Seek Expert Consultation
  - -: Check total AND IgM anti-HBc (if not already done as part of panel)

**KEY**

+ or – indicates viral activity

*If chronic hepatitis B is suspected, Hepatitis Be Ag, Hep Be Ab and HepB DNA and ALT should ALL be ordered; these are NOT available through the SLPH

Who should be tested for HBV?

- Past or present drug use, history of sex partners who use drugs
- Sex partners and household contacts of people with hepatitis B
- Men who have sexual contact with men
- People who are HIV+ or who have hepatitis C
- Infants born to hepatitis B positive mothers
- Health care and public safety workers exposed to blood or body fluids (CSF, pleural/peritoneal/amniotic fluid) on the job
- Hemodialysis patients
- Signs or symptoms of acute or chronic liver disease (ex. Jaundice, elevated AST or ALT)

**HEPATITIS B SURFACE ANTIGEN POSITIVE**

Test for HIV and HCV; screen and vaccinate all household and sexual susceptible contacts

- Acute Hepatitis B suspected if anti-IgM (+)
  - May take several months to resolve, check:
    - CBC
    - CMP
    - INR

- Chronic Hepatitis B suspected if anti-Hbc (+)
  - Order (not through SLPH):
    - HBeAg
    - HBeAb
    - HBV DNA

Refer to GI:

- Consider Hospitalization: Coagulopathy, Encephalopathy, Severe Jaundice (also consider age, social support, co-morbid liver disease or inability to tolerate oral intake).
- If ALT remains elevated or HBsAg remains (+) after 6 months, suspect chronic infection.
<table>
<thead>
<tr>
<th>INITIAL TESTS</th>
<th>FOLLOW-UP TESTS</th>
<th>HBV DNA</th>
<th>Possible Interpretation/Stage of Infection</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hep B Surface Antigen (HBsAg)</td>
<td>Hep B Surface antibody (anti-HBs)</td>
<td>Hep B Core antibody total (anti-HBc IgG + IgM)</td>
<td>Hep B e antigen (HBeAg)*</td>
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<tr>
<td>Negative</td>
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*Note: There are some types (strains) of HBV that do not make e-antigen. In areas where these strains of HBV are common (in the Middle East and Asia), testing for HBeAg is not very useful. In these cases, a negative HBeAg result does not necessarily mean that the antigen is not present of that the person is not infectious; it may be that the person is infected with a strain that does not make the e-antigen.