



HEPATITIS, TYPE B, PERINATAL (See also HEPATITIS, TYPE B)

1. **Agent:** Hepatitis B virus (HBV)
2. **Identification:** California law (Health and Safety Code, Section 304.1) requires that all prenatal patients be screened for hepatitis B surface antigen (HBsAg). Women with unknown HBsAg status at delivery should be tested at time of hospital admission. If a pregnant woman is screened once during her pregnancy and is shown to be HBsAg-negative, but she develops a hepatitis-like illness or has new risk factors for hepatitis B, she should be screened again prior to delivery.
 - a. **Symptoms:** While acute cases of hepatitis B can occur in the prenatal period, most HBsAg-positive prenatal patients will be asymptomatic chronic carriers and identified by their laboratory test only. Infants infected are generally asymptomatic.
 - b. **Differential Diagnosis:** Other viral, chemical, and other causes of hepatitis.
 - c. **Diagnosis:** Positive HBsAg test. Maternal anti-HBc IgG will be present in the infant's blood and does not indicate maternal-infant transmission.
3. **Incubation:** From 45-180 days.
4. **Reservoir:** Human.
5. **Source:** For infants, primarily maternal blood or body fluids.
6. **Transmission:** By parenteral inoculation or mucosal membrane exposure of infant to maternal blood or body fluid. Exposure usually occurs during the birth process, since the hepatitis B virus does not cross the placental barrier intact. Vaginal or caesarean deliveries have similar transmission risk.
7. **Communicability:** Maternal blood or body fluids are potentially infectious. Unless infected in utero, infants are usually non-infectious at birth since they will be incubating the disease.
8. **Specific Treatment:** Treatment for chronic hepatitis B infection is available for some

patients who meet clinical criteria. Prevention of maternal-infant transmission through timely immunization of infant with HBIG and vaccine is to be stressed.

- a. Infants of HBsAg-positive mothers: Intramuscular injection (IM) of hepatitis B immune globulin (HBIG) to be given within 12 hours of birth. Effectiveness of HBIG more than 7 days after birth exposure is unknown; delay will compromise effectiveness. Hepatitis B vaccine should be given (IM) at same time as HBIG at a different site; two subsequent vaccine doses are given at 1-2 months and 6 months of age at a dosage appropriate for brand of vaccine.

Infants should be serologically screened for HBsAg and anti-HBs 3-9 months after completion.

- b. Infants born with unknown maternal HBsAg status: Maternal HBsAg testing must be done promptly. If results are not available, initiate treatment with the first dose of hepatitis B vaccine within 12 hours of birth. HBIG administration is dependent on maternal HBsAg status. The second and third vaccine doses should be administered according to ACIP vaccination recommendations.

REPORTING PROCEDURES

1. Reportable, California Code of Regulations, Section 2500.
 - a. The Perinatal Hepatitis B Prevention Unit (PHBPU) of the Immunization Program will case manage infants born to HBsAg positive mothers, and sexual and household contacts of the women.
 - b. Appropriate testing and hepatitis B vaccination will be arranged through private and public providers.



2. Report Form:

- a. PHBPU staff will complete the **CONFIDENTIAL HBsAg+ CASE/HOUSEHOLD MANAGEMENT REPORT (CDPH 8546)**.
- b. If the patient is identified as an acute case of hepatitis B, then additional follow up as described in the Hepatitis B section will be conducted by the health districts.

3. Epidemiologic Data:

The majority of women identified as HBsAg-positive as part of their routine prenatal laboratory work-up will be hepatitis B carriers. Epidemiologic data should be obtained to evaluate risk of transmission to infant and sexual and household contacts

- a. Estimated delivery date and anticipated hospital of delivery.
- b. Anticipated provider of pediatric care.
- c. Line listing of contacts (sexual and/or household) to be evaluated for susceptibility and need for vaccination.
- d. Obtain laboratory tests:
 - Household contact(s) testing for susceptibility (anti-HBc)
 - Infant post-vaccination testing for vaccine response (anti-HBs and HBsAg).

CONTROL OF CASE, CONTACTS & CARRIERS

Investigate infant immediately to ensure receipt of HBIG and HBV vaccine.

CASE:

No restrictions. Follow-up of newborn is public health priority. Without appropriate protection, up to 90% of newborns will be infected; if infected, 90% become carriers.

Follow-up testing for HBsAg and anti-HBs should be done for infants born to HBsAg positive mothers 3 months after completing the vaccine series to determine the success of immunoprophylaxis, and, in the case of failure, to

identify HBV carriers or infants who may require revaccination.

CONTACTS:

Investigate remaining contacts within 2 weeks. Persons exposed to blood or body fluid of an infected person, regular sexual partners, and long-term household contacts to a carrier of hepatitis B. "Long-term" contacts are defined as individuals with anticipated continuous household exposure for greater than one year (often limited to nuclear family only).

1. No restrictions.
2. Regular sexual partners are at increased risk. Laboratory testing (anti HBc) should be obtained to evaluate susceptibility. If susceptible, hepatitis B vaccine should be administered to the contact.
3. Long-term household contacts of all ages are at increased risk. History of HBV vaccination or serologic screening (anti-HBc) should be obtained on all contacts, including children, to evaluate susceptibility. If susceptible, hepatitis B vaccine should be administered to the contact.
4. Regular sexual partners and long-term household contacts who firmly refuse screening for susceptibility should be vaccinated without screening.
5. Vaccine dosage depends on the age and vaccine manufacturer. Refer to the vaccine package insert or B 71 ("Recommendations for Use and Storage of Common Immunobiologics and Other Prophylactic Agents.")

PREVENTION-EDUCATION

1. Instruct HBsAg-positive prenatal patient on the need for her newborn to be protected against hepatitis B by immunoprophylaxis (hepatitis B vaccine and HBIG) given at birth and followed by 2 subsequent doses of hepatitis B vaccine.
2. Advise infected women on the need to be evaluated for possible liver disease.
3. Instruct HBsAg-positive patient on the sanitary disposal of blood and other body secretions.



Advise the patient that shared articles contaminated with blood (e.g. needles, syringes, razors, and toothbrushes) may transmit the disease.

4. Advise the patient that all sexual partners are at increased risk of infection; condoms may reduce their risk. Regular sexual contacts should be evaluated for susceptibility and vaccinated if susceptible.
5. Advise that long-term household contacts are at increased risk of infection. Contacts should be evaluated for susceptibility and vaccinated if susceptible.
6. Breast-feeding is not contraindicated for infants undergoing hepatitis vaccination.
7. Hepatitis B vaccine is a routine childhood immunization.
8. Advise that a history of any viral hepatitis excludes participation in blood donor programs, under current State regulations.

Material: Whole clotted blood.

Amount: 5-7 ml.

Storage: Refrigerate.

DIAGNOSTIC PROCEDURES

Clinical and epidemiological history required to aid laboratory in test(s) selection.

Serology:

Container: VR serology contains a serum separator tube (SST, a red-gray top vacutainer tube) and a **VIRAL, RICKETTSIAL AND CHLAMYDIAL DISEASE EXAMINATION FORM (H-789)**.

Examination Requested:

1. **For prenatal patients:** The laboratory slip must be clearly labeled as a prenatal specimen. The test to be performed: HBsAg.
2. **For sexual or household contacts:** The laboratory slip shall be clearly labeled "Hepatitis B Contact - Perinatal." The test to be performed on contacts: anti HBc. If anti-HBc is positive, test for HBsAg.
3. **For post-vaccination of infants:** The laboratory slip shall be clearly labeled AHepatitis B Post-vaccination of infant. The tests to be performed are anti-HBs and HBsAg.