

PHN GUIDELINE: HEPATITIS B POSITIVE CLIENTS – POST EXPOSURE TREATMENT

I. DEFINITION:

Hepatitis B is a highly infectious disease of the liver caused by the hepatitis B virus (HBV). See OSDH EPI Manual for a detailed discussion of hepatitis B infection, interpretation of serologic testing, and recommendations for public health follow-up.

II. ETIOLOGY AND EPIDEMIOLOGY:

- A. Hepatitis B is a vaccine-preventable communicable disease transmitted through sexual contact, direct blood exposures (percutaneous, non-intact skin, and mucous membrane), human bites that break the skin causing bleeding, perinatally, and household contacts of infected persons.
- B. Although Hepatitis B surface antigen (HbsAg) has been detected in breast milk of HbsAg positive women, studies from Taiwan and England have indicated breastfeeding by HbsAg positive women does not increase significantly the risk of infection among their infants. In the United States, infants born to known HbsAg-positive women should receive Hepatitis B Immune Globulin (HBIG) and Hepatitis B virus vaccine, effectively eliminating any theoretical risk of transmission through breastfeeding.
- C. Both pre- and post-exposure prophylaxis are available to prevent transmission of hepatitis B.
 - 1. Pre-exposure prophylaxis consists of administration of a 3 dose series of hepatitis B vaccine given over a 6-month period.
 - 2. Adolescents aged 11-15 years have the option of a two-dose schedule with the second dose given 4-6 months after the first dose.
 - 3. Post-exposure prophylaxis is based on whether the exposed person has been previously vaccinated and responded to the vaccine. Prophylaxis may consist of:
 - a. a booster dose of vaccine,
 - b. a combination of vaccine and hepatitis B immune globulin (HBIG),
 - c. 2 doses of HBIG, or
 - d. no treatment.

III. MANAGEMENT PLAN:

- A. Patients with confirmed test results for hepatitis B will be referred to the Communicable Disease Nurse to investigate the case, determine the appropriate disease classification, and obtain a list of contacts.
- B. Acute Hepatitis B
 - 1. When the case is classified as Acute Hepatitis B (See the epi manual for case definitions for Hepatitis B), the CDN may obtain a screening test (anti-HBc) and administer HBIG and Hepatitis B vaccine to unvaccinated or inadequately vaccinated sexual contacts and contacts to the blood of the infected person when the most recent exposure has been within 14 days. See Table 4 for lab interpretation and further treatment options. (See epi manual for further explanation of contact definitions)
 - 2. The CDN may obtain a screening test (anti-HBc) and administer Hepatitis B vaccine to unvaccinated or inadequately vaccinated sexual and household contacts beyond the 14 day time period. See Table 4 for lab interpretation and further treatment options.

C. HBsAg – Not Acute Hepatitis

1. When the infected person has a confirmed HBsAg positive test result, and does not meet the case definition for Acute Hepatitis B, the CDN may administer a screening test (anti-HBc) to unvaccinated or inadequately vaccinated sexual contacts, household contacts, and contacts to the blood of the infected person.
 - a. If the screening test is negative, Hepatitis B vaccine should be administered.
 - b. If the screening test is positive, the person should be referred to his/her private physician for further evaluation.
2. To consult with Hepatitis Program Staff regarding Hepatitis Case Definitions and appropriate follow up, the CDN may call HIV/STD Service at 405-271-4636.

D. HBIG provides passive immunity for individuals exposed to the hepatitis B virus. The administration of the usual recommended dose of this immune globulin generally results in a detectable level of circulating anti-HBs which persists for approximately 2 months or longer.

1. Contraindications: Prior systemic allergic reactions following the administration of human immune globulin preparations; patients who have severe thrombocytopenia or any coagulation disorder that would contraindicate intramuscular injections.
2. Precautions: Pregnant women should be referred to their private physician.
3. Drug Interactions: Use of live virus vaccines should be deferred until approximately 3 months after HBIG administration.
4. Effectiveness: For acute exposure to blood containing HBsAg, and sexual exposure to a person with acute hepatitis B, HBIG is approximately 75% effective.

IV. CLIENT EDUCATION:

- A. Anti-HBc is the antibody to the hepatitis B core antigen.
- B. If the Anti-HBc test is positive, the client has come into contact with HBV and may or may not still be infected with the virus.
- C. In order to determine if the client is immune or a carrier, he/she should be advised to see a physician for further testing and evaluation.
- D. If the test is negative, the client is regarded as susceptible and should be immunized.

V. CONSULTATION/REFERRAL:

- A. Clients should receive information and counseling regarding the disease, which includes acute and carrier aspects of the infection, signs and symptoms, and prevention of transmission.
- B. If the client develops signs or symptoms of acute hepatitis (jaundice), immediately refer the client to a private physician and report to the OSDH HIV/STD Service.

VI. TREATMENT:

See PHN ORDER: HEPATITIS B – POST EXPOSURE TREATMENT

PHN ORDER: HEPATITIS B POSITIVE CLIENTS – POST EXPOSURE TREATMENT

I. LABORATORY STUDIES:

Anti-HBc may be drawn for contacts to HBsAg positive clients according to Table 4. Refer to laboratory manual for appropriate tube selection and collection procedure.

II. MANAGEMENT PLAN:

A. Post-exposure prophylaxis to acute/chronic hepatitis B cases - Perinatal and sexual exposures, household contacts and blood exposures:

1. The CDN should contact the HIV/STD Service at 271-4636 to request the appropriate lab requisition and the specimen should be sent to the contract lab for which courier service is available.
2. See Tables 1, 2, 3, and 4 for recommended post-exposure prophylaxis for these groups based on results of Anti-HBc if testing was done.
3. The CDN should contact the HIV/STD Service at 271-4636 to request HBIG and Hepatitis B vaccine.

REFERENCES:

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TABLE 1

Recommended Dosages of Hepatitis B Vaccines

| Vaccine Brand | Age Group | Volume | # Doses |
|--|--------------------|--------|---------|
| Engerix-B (GlaxoSmithKline) Pediatric/Adolescent | 0-19 years | 0.5 ml | 3 |
| Adult | 20 years and older | 1.0 ml | 3 |
| Recombivax HB (Merck & Co.) Pediatric/Adolescent | 0-19 years | 0.5 ml | 3 |
| Adolescent | 11-15 years♦ | 1.0 ml | 2 |
| Adult | 20 years and older | 1.0 ml | 3 |

*The schedule for hepatitis B vaccination is flexible and varies. Consult the “pink book,” ACIP statement on hepatitis B (11/91), AAP’s 2000 Red Book, or the package insert for details.

Note: For adult dialysis patients, the Engerix-B dose required is 40µg/2.0ml (use the adult 20µg/ml formulation) on a schedule of 0, 1, 2, and 6 months. For Recombivax HB, a special formulation for dialysis patients is available. The dose is 40µg/1.0ml and is given on a schedule of 0, 1, and 6 months.

♦The following points should be noted:

1. As with other hepatitis B vaccination series, if administration of the two-dose schedule is interrupted, it is not necessary to restart the series.
2. Children and adolescents who have begun vaccination with the pediatric/adolescent 5mcg/0.5-mL dose of hepatitis B vaccine should complete the three-dose series with this dose.
3. If it is not clear which dose an adolescent received at the start of a series, the series should be completed with the three-dose vaccine. Ideally, the client’s record will contain at least the following information: “hepatitis B vaccine 0.5 mL” or “hepatitis B vaccine 1.0 mL”.
4. EngerixB manufactured by GlaxoSmithKline is not licensed for use in the optional two-dose series.

TABLE 2

Acute Hepatitis B Post Exposure Recommendations
(See Epi Manual for Acute Hepatitis B case definition.)

| HBIG | | | VACCINE ♦ |
|---|----------------|--|---|
| Exposure | Dose | Recommended Timing | Recommended Timing |
| Previously unvaccinated or inadequately vaccinated persons with sexual and/or blood exposures | 0.06 ml/kg IM* | Single dose within 14 days of last contact | First dose at time of HBIG treatment+ ♦ For appropriate age-specific doses of each vaccine, see Table 1 *For appropriate weight-specific doses of HBIG, see Table 3 + The first dose can be given the same time as the HBIG dose, but in a different site; Subsequent doses should be given: a. Sexual, blood or human bite exposure: 1 month after first dose and 6 months after first dose. |

TABLE 3

HBIG Dosage Schedule

| HBIG IM DOSE 0.06 ml per 2.2 lb Average adult dose 3-5 ml IM | |
|---|-----------|
| Weight | Dose |
| <23 lb | 0.5 ml IM |
| 23-40 lb | 0.8 ml IM |
| 41-60 lb | 1.3 ml IM |
| 61-80 lb | 1.9 ml IM |
| 81-100 lb | 2.5 ml IM |
| 101-120 lb | 3.0 ml IM |
| 121-140 lb | 3.5 ml IM |
| 141-160 lb | 4.0 ml IM |
| 161-180 lb | 4.5 ml IM |
| >180 lb | 5.0 ml IM |

TABLE 4

HBsAg Positive Post Exposure Recommendations

This table is for Perinatal clients or household contacts, not acute cases. Use for Chronic case or case that does not meet case definition for acute case.

| HBIG | | | TESTING | VACCINE ♦ |
|--|-----------|---------------------------|--|--|
| Exposure | Dose | Recommended Timing | Anti-HBc | Recommended Timing |
| Perinatal | 0.5 ml IM | Within 12 hours of birth+ | See PHN Guidelines and Order: Hepatitis Surface Antigen; Perinatal | Within 12 hours of birth+ |
| Previously unvaccinated or inadequately vaccinated persons with sexual and/or blood exposures | None | | Test (anti-HBc) to screen for immunity. | If anti-HBc negative, begin or resume series. If anti-HBc positive, do not give vaccine. |
| Previously unvaccinated or inadequately vaccinated household contacts | None | | Test (anti-HBc) to screen for immunity. | If anti-HBc negative, begin or resume series. If anti-HBc positive, do not give vaccine. |
| ♦ For appropriate age-specific doses of each vaccine, see Table 1 | | | | |
| + The first dose can be given the same time as the HBIG dose, but in a different site; The third dose should not be administered prior to 6 months of age. | | | | |