

Perinatal Hepatitis B: Vaccine Recommendations

Hepatitis B virus (HBV) infection is a serious, yet preventable, health problem in the U.S. It is estimated that between 4,000 and 5,000 deaths occur annually from HBV-related chronic liver disease and that HBV infection is a leading cause of liver cancer in the U.S.

The greatest risk of chronic infection and death from HBV-related chronic liver disease occurs from the transmission of HBV from mother to infant during the perinatal period. Within Los Angeles County, it is estimated that 1,000 hepatitis B infected women give birth each year and that up to 90% of the infants born to these women would become infected without prophylaxis. Ninety percent of infants who become infected develop chronic lifelong infection. Chronically infected persons pose a lifelong threat of infection to their sexual partners, children, and other close household contacts. Yet the vast majority (90–95%) of these potential infections may be avoided through appropriate maternal screening and infant immunoprophylaxis.

California state law has required HBsAg serological screening of pregnant women since 1991. In addition, physicians, laboratories, hospitals, and other health care professionals are required by law to report HBsAg-positive persons to the local health department. HBsAg-positive cases in the county are reported by mail, phone or fax to the Morbidity Central Reporting Unit. Prompt health care provider reporting of HBsAg positive women is critical because the health care provider can provide the patient's pregnancy status and diagnosis thereby helping to ensure prompt follow-up. Confidential Morbidity Report forms can be obtained from any local health center registrar, from the Morbidity Central Reporting Unit or the department's web site at www.lapublichealth.org/acd/reports/acdcmr.pdf. Hospitals report births to HBsAg-positive mothers directly to the department's Immunization Program's Perinatal Hepatitis B Prevention Program by mail, phone or fax. Hospitals and birth centers can obtain the Hospital Report-Perinatal hepatitis B reporting form by calling the program or from the web site www.lapublichealth.org/ip/vpds/pHB_hospreport.pdf.

In 2003, 696 births to HBsAg-positive women were reported to the program, but it is estimated that the program only receives an estimated 70% of expected reports of births to HBsAg-positive mothers. Reporting increases the likelihood that perinatally HBV-exposed infants and their families will receive needed prophylaxis,

immunizations, and follow-up. Once notified, the program's case managers contact the pregnant woman and provide linguistically and culturally appropriate health education on the virus, its transmission, and prevention. The case manager follows the family to ensure that the infant is immunized on time and receives post-vaccination serological screening to verify immunity. The case manager also ensures that household members are referred for serological screening and immunization, if susceptible.

Recommendations

The HBsAg status of pregnant women must be reviewed at the time of admission for delivery. Women whose HBsAg status is unknown need to have a stat HBsAg done to properly manage the infant's care. The vaccination schedule reviews the CDC's Advisory Committee on Immunization Practices (ACIP) recommendations for immunoprophylaxis of infants born to mothers whose HBsAg status is positive, unknown, or negative at the time of delivery.

The ACIP, the American Academy of Pediatrics, and American Academy of Family Physicians recommend health care providers routinely administer the first dose of Hepatitis B vaccine (HepB) to all infants soon after birth and before hospital discharge. Hepatitis B vaccine administered before hospital discharge should minimize the risk of infection due to errors in maternal HBsAg testing or reporting, or from exposure to persons with chronic HBV infection in the household, and can increase the likelihood of completing the vaccine series.

Report HBsAg-positive persons to the local health department

HBsAg-positive cases are reported to the Morbidity Central Reporting Unit:

Address: 313 N. Figueroa Rm 117, Los Angeles, CA 90012
Phone: 213-240-7821
Fax: 888-397-3778
Confidential Morbidity Report form:
www.lapublichealth.org/acd/reports/acdcmr.pdf

Births to HBsAg-positive mothers are reported directly to the Immunization Program's Perinatal Hepatitis B Prevention Program (PHBPP):

Address: 3530 Wilshire Blvd Ste 700, Los Angeles, CA 90010
Phone: 213-351-7400
Fax: 213-351-2781
Hospital Report form for Perinatal Hepatitis B:
www.lapublichealth.org/ip/vpds/pHB_hospreport.pdf

Continued on page 7

Vaccine Recommendations (from page 5)

Infants whose mothers are HBsAg-positive should receive HepB and hepatitis B immune globulin (HBIG) within 12 hours of birth. Infants whose mothers' HBsAg status is unknown at birth should receive HepB within 12 hours of birth and if the mother is found to be HBsAg-positive, infants should receive HBIG as soon as possible but not later than 7 days of age. Premature infants weighing less than 2,000 grams at birth whose mothers' HBsAg status is positive or unknown should receive both HepB and HBIG within 12 hours of birth.

For more information on hepatitis B, the Perinatal Hepatitis B Prevention Program, or reporting requirements, contact the Perinatal Hepatitis B Prevention Program at (213) 351-7400.

This information is available on the Immunization Program web site at:
www.lapublichealth.org/ip/vpds/perinatalhepb.pdf.

HIV and High-Risk Groups

In late 2003, the HIV Epidemiology Program conducted the HIV Testing Survey (HITS) among male-to-female transgenders and female sex workers. The CDC-funded HITS was designed to better understand risk behaviors, HIV testing, and the use of prevention services among high-risk groups. Previous research indicated high levels of HIV risk among transgenders and relatively low levels among female sex workers (FSWs); however, little recent data were available on the latter population.

Most HITS 2003 participants were recruited from street locations and clubs; some were recruited from service agencies and social events. Respondents received \$25 for completing the survey. Of the 312 potentially eligible people approached, 260 completed surveys (80%). Two hundred twenty-four participants were eligible, including 130 transgenders and 94 females who reported trading sex for money or drugs in the previous 12 months.

Preliminary study findings are reported here.

The sample was predominately African American (30% among transgenders, 50% among FSWs) and Latino (46% among transgenders, 29% among FSWs), young, and of low socioeconomic status. Eighteen to 24 year olds composed more than 20% and 25 to 29 year olds composed one-third of both populations surveyed. Approximately 60% of both groups had monthly incomes of less than \$2000, and slightly over 40% had not graduated high school. Furthermore, 39% of transgenders and 31% of FSWs reported being homeless at some point in the past year.

Both groups reported high levels of lifetime HIV testing with 87% of transgenders and 81% of FSWs having testing at least once. Over 67% and 60%, respectively, had tested in the previous 12 months. Among those who had ever tested, 15% of transgenders and 6% of female sex workers reported being diagnosed with HIV infection. Because some respondents had either seroconverted after their last test or tested positive and not reported it, this is an underestimate of the level of HIV infection in both groups. The percentage reporting having tested HIV-antibody positive among FSWs is higher than expected and should be examined further in a larger sample.

Significant proportions of respondents reported receiving prevention services. For example, 75% of transgenders and 61% of FSWs had received free condoms, 48% and 35% respectively had received brochures, and 41% and 19% had talked to an outreach worker about HIV prevention. Smaller proportions reported taking part in more in-depth prevention interventions such as small groups sessions (33% of transgenders and 6% of FSWs) or role-plays to practice condom negotiation (33% of transgenders and 11% of FSWs).

These findings indicate high levels of HIV infection among transgender women and women who participate in exchange sex. They show that local prevention efforts have successfully reached portions of both communities, but underscore the need for increased prevention efforts to address the HIV-risk behaviors and the more basic needs for housing, education, and other services of among male-to-female transgenders and female sex workers.

Recommended Hepatitis B Vaccination Schedule for Infants and Premature Infants Born to Mothers Whose Hepatitis B Surface Antigen Status is Positive, Unknown, or Negative at the Time of Delivery

Mother's HBsAg Status	HBIG and Hepatitis B Vaccine Schedule*				
	Hepatitis B Immune Globulin	Hepatitis B vaccine #1	Hepatitis B vaccine #2	Hepatitis B vaccine #3	Hepatitis B vaccine #4
Infant born to HBsAg-positive mother	Within 12 hours of birth	Within 12 hours of birth	1-2 months of age	6 months of age [†]	
Infant born to mother whose HBsAg status is unknown [‡]	Within 7 days of birth if mother tests positive	Within 12 hours of birth	1-2 months of age	6 months of age	
Infant born to mothers whose HBsAg status is negative	Not indicated	Soon after birth and before hospital discharge	1- 4 months of age	6 – 18 months of age	
Premature infant weighing <2,000 grams born to HBsAg-positive mother	Within 12 hours of birth	Within 12 hours of birth [§]	1 month of age	2 months of age	6 months of age [†]
Premature infant weighing <2,000 grams whose mother's HBsAg status is unknown [‡]	Within 12 hours of birth ^{**}	Within 12 hours of birth ^{§**}	1 month of age	2 months of age	6 months of age
Premature infant weighing <2,000 grams born to mothers whose HBsAg status is negative	Not indicated	1 month ^{††} of age	2 – 4 months of age	6 – 18 months of age	

*The routine recommended first dose of HepB should be given soon after birth and before hospital discharge; the first dose also may be given by age 2 months if the infant's mother is HBsAg negative. Only monovalent HepB can be used for the birth dose. Monovalent or combination vaccine containing HepB may be used to complete the series. Four doses of vaccine may be administered when a birth dose is given. The second dose should be given at least 4 weeks after the first dose except for combination vaccines, which cannot be administered before age 6 weeks. The third dose should be given at least 16 weeks after the first dose and at least 8 weeks after the second dose. The last dose in the vaccination series (third or fourth dose) should not be administered before age 24 weeks.

[†] Test infants who have completed the hepatitis B series at age 6–8 months for HBsAg and anti-HBs at 9–15 months of age to monitor the success of therapy. If the series is completed at an older age due to the use of Comvax or due to a delayed schedule, the optimal testing time is 1–2 months after the final dose of hepatitis B vaccine. Every effort should be made to ensure that infants of HBsAg-positive mothers are vaccinated on schedule and then tested for immunity.

[‡] Mother should have blood drawn for stat HBsAg testing.

[§] This initial HepB dose should not be counted towards completion of the HepB series and three additional doses of HepB should be administered beginning when the infant is age 1 month.

^{**} Premature infants weighing less than 2,000 grams at birth who are born to mothers with unknown HBsAg status must receive immunoprophylaxis with hepatitis B vaccine and HBIG ≤12 hours after birth unless mothers' HBsAg test result is available in <12 hours.

^{††} The optimal timing of the first dose of HepB for premature infants of HBsAg-negative mothers with a birth weight of <2,000 grams has not been determined. However, these infants can receive the first dose of the HepB series at chronological age 1 month. Premature infants discharged from the hospital before chronological age 1 month can also be administered HepB at discharge, if they are medically stable and have gained weight consistently.

Table adapted from: Advisory Committee on Immunization Practices - Vaccine for Children Program Resolution No. 10/03-2

CDC. Hepatitis B Virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination: Recommendations of the ACIP APPENDIX A: Postexposure Prophylaxis for Hepatitis B. MMWR Recommendations and Reports, Nov 22, 1991, Vol. 40, No. RR-13, 21-25. www.cdc.gov/mmwr/preview/mmwrhtml/00033455.htm

CDC. General Recommendations on Immunization. Special Situations: "Vaccination of Premature Infants". MMWR Recommendations and Reports, Feb 8, 2002, Vol. 51, No. RR-2, 18. www.cdc.gov/mmwr/preview/mmwrhtml/rr5102a1.htm

Recommended Childhood and Adolescent Immunization Schedule, United States, July – December 2004.