

# Two More Infants Chronically Infected with Hepatitis B Virus...the Medical Errors Continue

Approximately 24,000 women with chronic hepatitis B virus (HBV) infection give birth in the United States each year. Although 85%–95% of perinatal HBV infections can be prevented by post-exposure prophylaxis (hepatitis B vaccine and hepatitis B immune globulin [HBIG]) given within 12 hours of birth, many high-risk newborns (infants of HBsAg-positive mothers) don't receive this recommended postexposure prophylaxis, or even hepatitis B vaccine alone which will prevent 70%–90% of perinatal HBV infections.

Unfortunately, children who become infected when they are younger than one year of age have a 90% chance of developing chronic hepatitis B virus infection with all its serious potential sequelae, including an up to 25% risk of death from cirrhosis or liver cancer later in life.

*The following two cases from Colorado illustrate how easily unprotected babies can become chronically infected children.*

## Case Report #1

This case occurred in December 1999. The mother was of Hmong ethnicity, born in Thailand. She had been diagnosed with chronic HBV infection in 1994 during her first pregnancy; this pregnancy was her third. In her prenatal record she was documented to be HBsAg and HBeAg positive, and this information appeared in several places on the record that was sent to the hospital. Despite this, her baby did not receive HBIG or the first dose of hepatitis B vaccine in the hospital. As a matter of fact, the hepatitis B vaccine order was crossed out in the newborn's chart. Follow-up with the pediatrician at six days of age indicated that the baby still had not received any prophylaxis. The first dose of vaccine was given when the infant was three weeks of age, the second three months after the first, and the third six months after the first.

Upon contacting the hospital where the baby was delivered to determine why HBIG and hepatitis B vaccine were not given within 12 hours of birth, the state health department representative was told that it was unclear how this baby was missed and perhaps it was because the hospital had no hepatitis B vaccine at the time of delivery. They indicated that the infant was to receive the first dose of vaccine at the pediatrician's office. However, this did not happen until the baby was three weeks of age, and only after the office was contacted by the state health department to request that it be done. The child's current status is unfortunate. Diagnosed HBsAg-positive at 19 months of age, the child is being followed by a liver specialist for chronic HBV infection.

## Case Report #2

This case occurred in August 2001, in a different hospital and city. The mother was also of Asian descent (Indonesian) and had tested positive for HBsAg midway through her pregnancy. The HBsAg lab result was recorded on the prenatal record, which was sent to the hospital. The hospital staff also recorded the HBsAg-positive test result on the hospital's obstetrical evaluation sheet. It was not acted upon by either the delivering physician or the labor and delivery staff, nor was the mother's HBsAg-positive test result communicated to or noted by the newborn nursery. The hospital did not have a policy in place to address management of babies born to HBsAg-positive mothers or to mothers of unknown status. The infant received neither HBIG nor hepatitis B vaccine at birth. In fact, the high-risk infant did not receive the first dose of hepatitis B vaccine until two months of age. Unfortunately, this child has also tested HBsAg positive.



In reviewing the case, a staff member at the state health department acknowledges that the baby should have been followed more closely. Part of the problem was that the health department field investigator didn't contact the hospital before the birth to ensure appropriate care would take place. Additionally, after the birth, the hospital sent the state an inaccurate report, stating that the child had received prophylaxis in the hospital. The investigator did not review the hospital record or call the physician to verify that the information was accurate.

**In summary, don't let infants go unprotected against hepatitis B virus infection because of avoidable human errors. Give every infant a dose of hepatitis B vaccine no later than hospital discharge. It's the safety net that will protect all newborns.**

**Such errors are not unique to Colorado.** The Immunization Action Coalition (IAC) surveyed state and local hepatitis B coordinators about perinatal hepatitis B practices in 2001 and again in 2002. The coordinators' responses contain hundreds of examples of children who were unprotected or inadequately protected because health professionals, clinic staff, or hospital staff failed to order or misordered the hepatitis B blood test or misinterpreted, mistranscribed, or miscommunicated the test results of the infants' mothers.\*

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\*To read the survey results, or to view or download related resources and recommendations, visit the Immunization Action Coalition's birth dose web page at [www.immunize.org/birthdose/birthdosesurvey.asp](http://www.immunize.org/birthdose/birthdosesurvey.asp).