

antigen (HBsAg) has been found in all body fluids, including feces, bile, breast milk, sweat, tears, vaginal secretions, and urine, but only blood, semen, and saliva have been found to contain infectious HBV particles. HBV infection from human bites has been documented, but transmission from feces has not. HBV has been acquired after blood transfusion, but the likelihood of this has been reduced through blood product screening procedures. Adults whose occupations are associated with considerable exposure to blood or blood products, such as health care workers, are at an increased risk of contracting HBV.

Most HBV infection in children is acquired perinatally. Transmission from mother to infant during the perinatal period (e.g., blood exposure during delivery) results in chronic infection in up to 90% of infants if the mother is positive for HBsAg and HBeAg ([Paganelli, Stephenne, and Sokal, 2012](#)). HBsAg has been inconsistently detected in breast milk, but no increased risk of transmission has been found and breastfeeding is currently recommended after infant immunization ([Clemente and Schwarz, 2011](#)). Infants and children who are not infected during the perinatal period remain at high risk for acquiring person-to-person transmission from their mother, with a 30% incidence of transmission during the first 5 years of life ([Clemente and Schwarz, 2011](#)).

HBV infection occurs in children and adolescents in specific high-risk groups, which are (1) individuals with hemophilia or other disorders who have received multiple transfusions, (2) children and adolescents involved in IV drug abuse, (3) institutionalized children, (4) preschool children in endemic areas, and (5) individuals engaged in sexual activity with an infected partner. The incubation period for HBV infection ranges from 45 to 160 days with an average of 120 days (Jensen and Balistereri, 2016). HBV infection can cause a carrier state and lead to chronic hepatitis with eventual cirrhosis or hepatocellular carcinoma in adulthood.

## Hepatitis C

HCV is the most common cause of chronic liver disease with an estimated 4 million people in the United States (Jensen and Balistereri, 2016). HCV is transmitted parenterally through exposure to blood and blood products from HCV-infected persons,