

The ABCs of Viral Hepatitis

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VIRAL HEPATITIS A (HAV)			
Description	<p>Hepatitis A is a liver disease caused by the hepatitis A virus. Hepatitis A can affect anyone. In the United States, hepatitis A can occur in situations ranging from isolated cases of disease to widespread epidemics.</p> <p>Good personal hygiene and proper sanitation can help prevent hepatitis A. Vaccines are also available for long-term prevention of hepatitis A virus infection in persons 12 months of age and older. Immune globulin is available for short-term prevention of hepatitis A virus infection in individuals of all ages.</p>		
SIGNS & SYMPTOMS	<p>Adults will have signs and symptoms more often than children.</p> <table border="1"><tbody><tr><td><ul style="list-style-type: none">• jaundice• fatigue• abdominal pain• loss of appetite</td><td><ul style="list-style-type: none">• nausea• diarrhea• fever</td></tr></tbody></table>	<ul style="list-style-type: none">• jaundice• fatigue• abdominal pain• loss of appetite	<ul style="list-style-type: none">• nausea• diarrhea• fever
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LONG-TERM EFFECTS	<ul style="list-style-type: none">• There is no chronic (long-term) infection.• Once you have had hepatitis A, you cannot get it again.• About 15% of people infected with HAV will have prolonged or relapsing symptoms over a 6-9 month period.		
TRANSMISSION	<ul style="list-style-type: none">• HAV is found in the stool (feces) of persons with hepatitis A.• HAV is usually spread from person to person by putting something in the mouth (even though it might look clean) that has been contaminated with the stool of a person with hepatitis A.		

PERSONS AT RISK for INFECTION	<ul style="list-style-type: none"> • Household contacts of infected persons • Sex contacts of infected persons • Persons, especially children, living in areas with increased rates of hepatitis A during the baseline period of 1987-1997 • Travelers to countries where hepatitis A is common • Men who have sex with men • Users of injection and non-injection drugs
PREVENTION	<ul style="list-style-type: none"> • Hepatitis A vaccine is the best protection. • Short-term protection against hepatitis A is available from immune globulin. It can be given before and within 2 weeks of coming in contact with HAV. • Always wash your hands with soap and water after using the bathroom, changing a diaper, and before preparing and eating food.
VACCINE RECOMMENDATION	<p>Vaccine is recommended for the following persons from 12 months of age and older:</p> <ul style="list-style-type: none"> • All children at age 1 year (i.e., 12–23 months) • Travelers to countries where hepatitis A is common • Men who have sex with men • Users of injection and non-injection drugs • Persons with clotting-factor disorders (e.g., hemophilia) • Persons with chronic liver disease • Children living in areas with increased rates of hepatitis A during the baseline period of 1987-1997 • Persons who work with HAV in a laboratory setting
TRENDS & STATISTICS	<ul style="list-style-type: none"> • Hepatitis A occurs in epidemics both nationwide and in communities. • Before hepatitis A vaccine became available, the number of reported cases reached 35,000 per year. • In the late 1990s, hepatitis A vaccine was more widely used and the number of cases reached historic lows. • One-third of Americans have evidence of past infection

VIRAL HEPATITIS B (HBV)			
DESCRIPTION	Hepatitis B is a serious disease caused by a virus that attacks the liver. The virus, which is called hepatitis B virus (HBV), can cause lifelong infection, cirrhosis (scarring) of the liver, liver cancer, liver failure, and death. Hepatitis B vaccine is available for all age groups to prevent hepatitis B virus infection.		
SIGNS & SYMPTOMS	About 30% of persons have no signs or symptoms. Signs and symptoms are less common in children than adults.		
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TRANSMISSION	<ul style="list-style-type: none"> • Occurs when blood from an infected person enters the body of a person who is not infected. • HBV is spread through having sex with an infected person without using a condom (the efficacy of latex condoms in preventing infection with HBV is unknown, but their proper use might reduce transmission), by sharing drugs, needles, or "works" when injecting drugs, through needle sticks or sharps exposures on the job, or from an infected mother to her baby during birth. • Persons at risk for HBV infection might also be at risk for infection with hepatitis C virus (HCV) or HIV. 		
RISK GROUPS	<table border="0"> <tr> <td> <ul style="list-style-type: none"> • Persons with multiple sex partners or diagnosis of a sexually transmitted disease • Men who have sex with men • Sex contacts of infected persons • Injection-drug users • Household contacts of chronically infected persons </td> <td> <ul style="list-style-type: none"> • Infants born to infected mothers • Infants/children of immigrants from areas with high rates of HBV infection • Health-care and public safety workers with exposure to blood • Hemodialysis patients </td> </tr> </table>	<ul style="list-style-type: none"> • Persons with multiple sex partners or diagnosis of a sexually transmitted disease • Men who have sex with men • Sex contacts of infected persons • Injection-drug users • Household contacts of chronically infected persons 	<ul style="list-style-type: none"> • Infants born to infected mothers • Infants/children of immigrants from areas with high rates of HBV infection • Health-care and public safety workers with exposure to blood • Hemodialysis patients
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<p>PREVENTION</p>	<ul style="list-style-type: none"> • Hepatitis B vaccine is the best protection. • If you are having sex, but not with one steady partner, use latex condoms correctly and every time you have sex. The efficacy of latex condoms in preventing infection with HBV is unknown, but their proper use might reduce transmission. • If you are pregnant, you should get a blood test for hepatitis B. Infants born to HBV-infected mothers should be given HBIG (hepatitis B immune globulin) and vaccine within 12 hours after birth. • Do not shoot drugs; if you shoot drugs, stop and get into a treatment program; if you can't stop, never share drugs, needles, syringes, water, or "works", and get vaccinated against hepatitis A and B. • Do not share personal care items that might have blood on them (razors, toothbrushes). • Consider the risks if you are thinking about getting a tattoo or body piercing. You might get infected if the tools have someone else's blood on them or if the artist or piercer does not follow good health practices. • If you have or had hepatitis B, do not donate blood, organs, or tissue. • If you are a health-care or public safety worker, get vaccinated against hepatitis B, and always follow routine barrier precautions and safely handle needles and other sharps
<p>VACCINE RECOMMENDATIONS</p>	<ul style="list-style-type: none"> • Hepatitis B vaccine has been available since 1982. • Routine vaccination of 0-18 year olds • Vaccination of risk groups of all ages
<p>LONG-TERM EFFECTS WITHOUT VACCINATION</p>	<p>Chronic infection occurs in:</p> <ul style="list-style-type: none"> • 90% of infants infected at birth • 30% of children infected at age 1–5 years • 6% of persons infected after age 5 years <p>Death from chronic liver disease occurs in: 15%–25% of chronically infected persons</p>
<p>CONTRAINDICATIONS TO VACCINE</p>	<p>A serious allergic reaction to a prior dose of hepatitis B vaccine or a vaccine component is a contraindication to further doses of hepatitis B vaccine. The recombinant vaccines that are licensed for use in the United States are synthesized by <i>Saccharomyces cerevisiae</i> (common bakers' yeast), into which a plasmid containing the gene for HBsAg has been inserted. Purified HBsAg is obtained by lysing the yeast cells and separating HBsAg from the yeast components by biochemical and biophysical techniques. Persons allergic to yeast should not be vaccinated with vaccines containing yeast.</p>

TREATMENT & MEDICAL MANAGEMENT	<ul style="list-style-type: none">• HBV infected persons should be evaluated by their doctor for liver disease.• Adefovir dipivoxil, interferon alfa-2b, pegylated interferon alfa-2a, lamivudine, entecavir, and telbivudine are six drugs used for the treatment of persons with chronic hepatitis B.• These drugs should not be used by pregnant women.• Drinking alcohol can make your liver disease worse.
TRENDS & STATISTICS	<ul style="list-style-type: none">• Number of new infections per year has declined from an average of 260,000 in the 1980s to about 60,000 in 2004.• Highest rate of disease occurs in 20-49-year-olds.• Greatest decline has happened among children and adolescents due to routine hepatitis B vaccination.• Estimated 1.25 million chronically infected Americans, of whom 20-30% acquired their infection in childhood.

VIRAL HEPATITIS C (HCV)			
SIGNS & SYMPTOMS	80% of persons have no signs or symptoms.		
LONG-TERM EFFECTS	<ul style="list-style-type: none"> • Chronic infection: 55%-85% of infected persons • Chronic liver disease: 70% of chronically infected persons • Deaths from chronic liver disease: 1%-5% of infected persons may die • Leading indication for liver transplant 		
TRANSMISSION	<ul style="list-style-type: none"> • Occurs when blood from an infected person enters the body of a person who is not infected. <p>HCV is spread through sharing needles or "works" when "shooting" drugs, through needle sticks or sharps exposures on the job, or from an infected mother to her baby during birth.</p>		
Recommendations for testing based on risk for HCV infection	<p>Persons at risk for HCV infection might also be at risk for infection with hepatitis B virus (HBV) or HIV.</p> <p>Recommendations for Testing Based on Risk for HCV Infection</p>		
	PERSONS	RISK OF INFECTION	TESTING RECOMMENDED
	Injecting drug users	High	Yes
	Recipients of clotting factors made before 1987	High	Yes
	Hemodialysis patients	Intermediate	Yes
	Recipients of blood and/or solid organs before 1992	Intermediate	Yes
	People with undiagnosed liver problems	Intermediate	Yes
	Infants born to infected mothers	Intermediate	After 12-18 mos. old
	Healthcare/public safety workers	Low	Only after known exposure
	People having sex with multiple partners	Low	No*
	People having sex with an infected steady partner	Low	No*
	*Anyone who wants to get tested should ask their doctor.		

<p>TREATMENT & MEDICAL MANAGEMENT</p>	<ul style="list-style-type: none"> • HCV positive persons should be evaluated by their doctor for liver disease. • Interferon and ribavirin are two drugs licensed for the treatment of persons with chronic hepatitis C. • Interferon can be taken alone or in combination with ribavirin. Combination therapy, using pegylated interferon and ribavirin, is currently the treatment of choice. • Combination therapy can get rid of the virus in up to 5 out of 10 persons for genotype 1 and in up to 8 out of 10 persons for genotype 2 and 3. • Drinking alcohol can make your liver disease worse.
<p>STATISTICS & TRENDS</p>	<ul style="list-style-type: none"> • Number of new infections per year has declined from an average of 240,000 in the 1980s to about 26,000 in 2004. • Most infections are due to illegal injection drug use. • Transfusion-associated cases occurred prior to blood donor screening; now occurs in less than one per 2 million transfused units of blood. • Estimated 4.1 million (1.6%) Americans have been infected with HCV, of whom 3.2 million are chronically infected. • The risk for perinatal HCV transmission is about 4% • If coinfecting with HIV the risk for perinatal infection is about 19%