

The ABCs of Hepatitis

HEPATITIS A is caused by the Hepatitis A virus (HAV)

HEPATITIS B is caused by the Hepatitis B virus (HBV)

HEPATITIS C is caused by the Hepatitis C virus (HCV)

Routes of Transmission	Ingestion of fecal matter, even in microscopic amounts, from: <ul style="list-style-type: none"> • Close person-to-person contact with an infected person • Sexual contact with an infected person • Ingestion of contaminated food or drinks 	Contact with infectious blood, semen, and other body fluids, primarily through: <ul style="list-style-type: none"> • Birth to an infected mother • Sexual contact with an infected person • Sharing of contaminated needles, syringes or other injection drug equipment • Needlesticks or other sharp instrument injuries 	Contact with blood of an infected person, primarily through: <ul style="list-style-type: none"> • Sharing of contaminated needles, syringes, or other injection drug equipment Less commonly through: <ul style="list-style-type: none"> • Sexual contact with an infected person • Birth to an infected mother • Needlestick or other sharp instrument injuries
Persons at Risk	<ul style="list-style-type: none"> • Travelers to regions with intermediate or high rates of Hepatitis A • Sex contacts of infected persons • Household members or caregivers of infected persons • Men who have sex with men • Users of certain illegal drugs (injection and non-injection) • Persons with clotting-factor disorders 	<ul style="list-style-type: none"> • Infants born to infected mothers • Sex partners of infected persons • Persons with multiple sex partners • Persons with a sexually transmitted disease (STD) • Men who have sex with men • Injection drug users • Household contacts of infected persons • Healthcare and public safety workers exposed to blood on the job • Hemodialysis patients • Residents and staff of facilities for developmentally disabled persons • Travelers to regions with intermediate or high rates of Hepatitis B (HBsAg prevalence of $\geq 2\%$) 	<ul style="list-style-type: none"> • Current or former injection drug users • Recipients of clotting factor concentrates before 1987 • Recipients of blood transfusions or donated organs before July 1992 • Long-term hemodialysis patients • Persons with known exposures to HCV (e.g., healthcare workers after needlesticks, recipients of blood or organs from a donor who later tested positive for HCV) • HIV-infected persons • Infants born to infected mothers
Incubation Period	15 to 50 days (average: 28 days)	45 to 160 days (average: 120 days)	14 to 180 days (average: 45 days)
Symptoms of Acute Infection	Symptoms of all types of viral hepatitis are similar and can include one or more of the following: <ul style="list-style-type: none"> • Fever • Fatigue • Loss of appetite • Nausea • Vomiting • Abdominal pain • Gray-colored bowel movements • Joint pain • Jaundice 		
Likelihood of Symptomatic Acute infection	<ul style="list-style-type: none"> • < 10% of children < 6 years have jaundice • 40%–50% of children age 6–14 years have jaundice • 70%–80% of persons > 14 years have jaundice 	<ul style="list-style-type: none"> • < 1% of infants < 1 year develop symptoms • 5%–15% of children age 1–5 years develop symptoms • 30%–50% of persons > 5 years develop symptoms <p>Note: Symptoms appear in 5%–15% of newly infected adults who are immunosuppressed</p>	<ul style="list-style-type: none"> • 20%–30% of newly infected persons develop symptoms of acute disease
Potential for Chronic Infection	None	<ul style="list-style-type: none"> • Among unimmunized persons, chronic infection occurs in >90% of infants, 25%–50% of children aged 1–5 years, and 6%–10% of older children and adults 	<ul style="list-style-type: none"> • 75%–85% of newly infected persons develop chronic infection • 15%–25% of newly infected persons clear the virus
Severity	Most persons with acute disease recover with no lasting liver damage; rarely fatal	<ul style="list-style-type: none"> • Most persons with acute disease recover with no lasting liver damage; acute illness is rarely fatal • 15%–25% of chronically infected persons develop chronic liver disease, including cirrhosis, liver failure, or liver cancer • Estimated 3,000 persons in the United States die from HBV-related illness per year 	<ul style="list-style-type: none"> • Acute illness is uncommon. Those who do develop acute illness recover with no lasting liver damage. • 60%–70% of chronically infected persons develop chronic liver disease • 5%–20% develop cirrhosis over a period of 20–30 years • 1%–5% will die from cirrhosis or liver cancer • Estimated 12,000 persons in the United States die from HCV-related illness per year
Serologic Tests for Acute Infection	<ul style="list-style-type: none"> • IgM anti-HAV 	<ul style="list-style-type: none"> • HBsAg in acute and chronic infection • IgM anti-HBc is positive in acute infection only 	<ul style="list-style-type: none"> • No serologic marker for acute infection

	HEPATITIS A	HEPATITIS B	HEPATITIS C
Serologic Tests for Chronic Infection	<ul style="list-style-type: none"> • Not applicable—no chronic infection 	<ul style="list-style-type: none"> • HBsAg (and additional markers as needed) 	<ul style="list-style-type: none"> • Screening assay (EIA or CIA) for anti-HCV • Verification by an additional, more specific assay (e.g., nucleic acid testing (NAT) for HCV RNA)
Screening Recommendations for Chronic Infection	<ul style="list-style-type: none"> • Not applicable—no chronic infection <p>Note: Screening for past acute infection is generally not recommended</p>	<p>Testing is recommended for:</p> <ul style="list-style-type: none"> • All pregnant women • Persons born in regions with intermediate or high rates of Hepatitis B (HBsAg prevalence of $\geq 2\%$) • U.S.–born persons not vaccinated as infants whose parents were born in regions with high rates of Hepatitis B (HBsAg prevalence of $\geq 8\%$) • Infants born to HBsAg-positive mothers • Household, needle-sharing, or sex contacts of HBsAg-positive persons • Men who have sex with men • Injection drug users • Patients with elevated liver enzymes (ALT/AST) of unknown etiology • Hemodialysis patients • Persons needing immunosuppressive or cytotoxic therapy • HIV-infected persons • Donors of blood, plasma, organs, tissues, or semen 	<p>Testing is recommended for:</p> <ul style="list-style-type: none"> • Persons born from 1945–1965 • Persons who currently inject drugs or who have injected drugs in the past, even if once or many years ago • Recipients of clotting factor concentrates before 1987 • Recipients of blood transfusions or donated organs before July 1992 • Long-term hemodialysis patients • Persons with known exposures to HCV (e.g., healthcare workers after needlesticks, recipients of blood or organs from a donor who later tested positive for HCV) • HIV-infected persons • Children born to infected mothers (do not test before age 18 mos.) • Patients with signs or symptoms of liver disease (e.g., abnormal liver enzyme tests) • Donors of blood, plasma, organs, tissues, or semen
Treatment	<ul style="list-style-type: none"> • No medication available • Best addressed through supportive treatment 	<ul style="list-style-type: none"> • Acute: No medication available; best addressed through supportive treatment • Chronic: Regular monitoring for signs of liver disease progression; some patients are treated with antiviral drugs 	<ul style="list-style-type: none"> • Acute: Antivirals and supportive treatment • Chronic: Regular monitoring for signs of liver disease progression; some patients are treated with antiviral drugs
Vaccination Recommendations	<p>Hepatitis A vaccine is recommended for:</p> <ul style="list-style-type: none"> • All children at age 1 year • Travelers to regions with intermediate or high rates of Hepatitis A • Men who have sex with men • Users of certain illegal drugs (injection and non-injection) • Persons with clotting-factor disorders • Persons who work with HAV-infected primates or with HAV in a research laboratory • Persons with chronic liver disease, including HBV- and HCV-infected persons with chronic liver disease • Family and care givers of recent adoptees from countries where Hepatitis A is common • Anyone else seeking long-term protection 	<p>Hepatitis B vaccine is recommended for:</p> <ul style="list-style-type: none"> • All infants at birth • Older children who have not previously been vaccinated • Susceptible sex partners of infected persons • Persons with multiple sex partners • Persons seeking evaluation or treatment for an STD • Men who have sex with men • Injection drug users • Susceptible household contacts of infected persons • Healthcare and public safety workers exposed to blood on the job • Persons with chronic liver disease, including HCV-infected persons with chronic liver disease • Persons with HIV infection • Persons with end-stage renal disease, including predialysis, hemodialysis, peritoneal dialysis, and home dialysis patients • Residents and staff of facilities for developmentally disabled persons • Travelers to regions with intermediate or high rates of Hepatitis B (HBsAg prevalence of $\geq 2\%$) • Unvaccinated adults with diabetes mellitus 19–59 (for those aged ≥ 60 years, at the discretion of clinician) • Anyone else seeking long-term protection 	<p>There is no Hepatitis C vaccine.</p>
Vaccination Schedule	<p>2 doses given 6 months apart</p>	<ul style="list-style-type: none"> • Infants and children: 3 to 4 doses given over a 6- to 18-month period depending on vaccine type and schedule • Adults: 3 doses given over a 6-month period (most common schedule) 	<p>No vaccine available</p>

