What We Know

- Hepatitis C virus (HCV) infection is an infectious viral disease of the liver that causes inflammation, which ranges in severity from mild to severe. HCV infection can be acute or chronic; acute HCV infection occurs within 6 months after exposure and 75–85% of infected persons develop chronic HCV infection.\(^1\)
- HCV infection is spread from the blood of an infected person and is primarily a result of sharing needles during illicit drug use.\(^1\)
- Chronic HCV infection is a major cause of liver cirrhosis and hepatocellular carcinoma.\(^1\)
- An estimated 3.2 million persons in the United States have chronic HCV infection, most of whom are unaware of their infection. HCV is responsible for more deaths in the U.S. than HIV.\(^1\)
- A vaccine against HCV does not exist. Prevention strategies include screening of blood products, public education about high-risk behaviors, and encouragement of healthcare providers to practice standard precautions when exposed to or handling blood and other body fluids.\(^1\,2\)
- Healthcare providers exposed to the blood of a patient with HCV infection (e.g., by needle-stick injuries) can become infected. Less commonly, HCV is transmitted through household contact (e.g., sharing razors), during sexual contact, or when receiving a body piercing or tattoo in a facility with poor infection control practices. Though rare, it is possible for a mother to transmit HCV to her infant in the perinatal period. Approximately 4/100 infants born to mothers with HCV infection become infected with the virus; risk for maternal-infant transmission is greater if the mother also has HIV infection.
- Risk factors for developing HCV include:
  - having HIV infection; HCV progresses more rapidly in persons with HIV infection
  - receiving hemodialysis or having spent many years receiving dialysis for kidney failure
  - receiving blood or organs from a donor who tested positive for HCV; this was once a common means of transmission but is now rare in the U.S. because screening was initiated in 1992
  - receiving a blood product for a clotting disorder before 1987
  - persons who work in institutions for the developmentally disabled
- HCV can survive outside of the body for 16 hours and in some cases for up to 4 days.\(^1\)
- The Centers for Disease Control (CDC) and Prevention developed risk-based testing guidelines that recommend performing a 1-time blood test for HCV infection in persons who are baby boomers (e.g., the generation born during the period 1945–1965). Baby boomers account for an estimated three-fourths of all chronic HCV infections in the U.S.\(^2\)
  - It is estimated that this recommendation could identify almost 808,600 additional persons with chronic HCV infection.
- Patients with HCV are counseled to:
  - use barrier protection during sexual intercourse
  - not share toothbrushes or razors (although this is a rare form of transmission)
  - cover open cuts and scratches
  - sanitize blood spills with detergent or bleach and use gloves when cleaning blood spills
  - not donate blood, organs, or sperm
- Abstinence of alcohol and smoking tobacco is recommended for persons with chronic HCV infection.\(^2\)
- The infrastructure for state reporting of acute hepatitis infections is through the CDC’s National Notifiable Disease Surveillance System (NNDSS). The CDC has identified a need for effective systems for conducting surveillance (i.e., reporting) of chronic hepatitis B virus (HBV) infection and HCV infection to guarantee accurate reporting of all cases and to support and evaluate prevention activities at the local, state, and national levels. Effective surveillance is fundamental to establishing prevention programs to prevent the transmission of viral hepatitis and improve the health of persons who are infected with viral hepatitis.\(^2\)
- In a study of three U.S. health departments with hepatitis surveillance programs for chronic HBV infection and HCV infection, investigators found that case management was provided in a limited manner only for chronic HBV infection. Investigators concluded that surveillance programs for chronic hepatitis will reach full potential only with adequate funding for data management (e.g., program software), investigation of case reports, and strong case management (e.g., confidential case registry that is available to local health authorities).\(^2\)
The National Guideline Clearinghouse recommends that patients with chronic HCV infection be treated with the antiviral therapy combination of pegylated interferon and ribavirin. Careful monitoring is required in patients with renal failure and those with mental health disorders. Patients treated with pegylated interferon and ribavirin should be monitored for signs of depression before, during, and immediately following treatment. Patients should be counseled that adherence to treatment, age, gender, and ethnicity influence treatment outcomes (e.g., older age at the time of treatment leads to a lower sustained viral response). Patients > 60 years of age may experience worse adverse effects of treatment. Depending on the severity of HCV infection, some patients will require liver transplantation.

Research results suggest that healthcare providers should observe for signs of early central nervous system manifestations in patients with HCV infection who are coinfected with HIV-1. Interferon therapy is linked to relapse in substance use in persons with a history of previous drug and/or alcohol abuse.

Poor patient adherence to the prescribed treatment regimen for HCV infection remains a problem. The following was reported in a cross-sectional study of 742 cases referred to a program for HCV disease management during the period 2000–2007 at an urban tertiary care liver center for HCV management:

- 141 cases, or 19% of patients, did not attend their initial appointment
- 180 cases dropped out during initial outpatient management
- 29 cases did not have a liver biopsy as prescribed
- 81 cases dropped out during subsequent outpatient visits
  - A total of 451 cases, or 61% of patients, dropped out during disease management for HCV
  - There was a statistically significant association with having a history of injection drug use and dropout rates immediately after referral, during initial outpatient management, and during the disease management program as a whole
  - Male gender was a statistically significant factor for dropping out of the program for disease management of HCV infection

A case manager can educate at-risk populations about HCV, evaluate cases to screen for at-risk persons who should be tested for HCV, and promote appropriate patient workup for HCV diagnosis. Patients with mild or vague symptoms may receive less than adequate treatment for HCV infection; the case manager should be persistent in attempting to establish a diagnosis. Case managers should monitor patient adherence to the prescribed treatment regimen for HCV infection and assess for barriers to treatment adherence. Adverse effects of medications (e.g., depression) and financial difficulties can contribute to nonadherence; 2 years of treatment for HCV infection can cost $35,000–$45,000.

An effective case management program for patients with HCV infection should include objectives for overcoming the challenges of treatment and adherence to treatment, including:

- promoting individualized counseling and education for the patient
- establishing a respectful and supportive patient relationship to promote effective communication
- assisting newly diagnosed patients with lifestyle adjustments
- presenting treatment options, including associated risks and benefits
- providing/requesting appropriate referrals and resources
- reinforcing the importance of adherence to the prescribed treatment regimen
- educating the patient on the adverse effects of alcohol, drugs, and stress
- encouraging wellness in lifestyle choices
- encouraging the patient to educate other persons who are at risk for HCV infection

What We Can Do

- Become knowledgeable about case management for patients with HCV so you can accurately assess your patients’ personal characteristics and health education needs; share this information with your colleagues
- Collaborate with multidisciplinary care teams in your facility to identify, diagnose, and treat persons with HCV infection; follow facility protocols for reporting cases to local or state authorities, as appropriate
- Promote HCV testing, particularly among patients identified as baby boomers
- Identify risks and trends for nonadherence to the prescribed treatment regimen for HCV infection
- Educate your patients with HCV infection and their families on risk factors, alcohol and tobacco abstinence, adherence to the prescribed treatment regimen, and prevention of transmission of HCV
- Refer to the National Guideline Clearinghouse for management of HCV and specific medication recommendations at http://guidelines.gov/content.aspx?id=10200
- For more information on HCV infection, see the series of related Quick Lessons and Evidence-Based Care Sheets
References


