

## Viral Hepatitis C Prevention for Injection Drug Users

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Hepatitis C virus (HCV) infection is the most common chronic bloodborne infection in the United States<sup>1</sup>. Data from the Third National Health and Nutrition Examination Survey (NHANES III), conducted during 1988–1994, have indicated that an estimated 3.9 (1.8%) million Americans have been infected with HCV. Most of these persons are chronically infected and are unaware of their infection because they are not clinically ill. However, about 70 percent of chronically infected persons develop chronic liver disease with an increased risk for development of cirrhosis and liver cancer<sup>1</sup>. In the United States, HCV is estimated to be the cause of 40 percent to 60 percent of cases of chronic liver disease and 8,000 to 10,000 deaths annually.

HCV infection is highly prevalent (50%–95%) among injection drug users (IDUs) and rapidly acquired after drug users first inject drugs<sup>2</sup>. Several studies have now shown that HCV transmission among IDUs is associated with both direct and indirect sharing<sup>3</sup> of injection equipment such as cookers and cotton. Clearly, never starting to inject or stopping injection drug use would eliminate the major route of HCV transmission. Because HCV infection is rapidly acquired after initiation of injection practices, HCV prevention efforts must have strong emphasis on primary prevention and substance abuse treatment. Persons who continue to inject should receive counseling to help assist them with stopping drug use and completing substance-abuse treatment, including relapse prevention programs. IDUs, regardless of their HCV status, need to be counseled on how to inject safely (refer to table 1). Prevention messages and campaigns should be revised to alert active IDUs to the importance of reducing or eliminating all equipment-sharing practices<sup>4</sup>. Prevention measures must focus on reducing the risks associated with drug-sharing, specifically the practices of using contaminated syringes to introduce water and apportion drugs and reusing potentially contaminated water in dissolving drugs. Increasing access to sterile syringes for both drug preparation and injection and working with IDUs to find alternative ways to prepare and distribute shared drugs are needed.

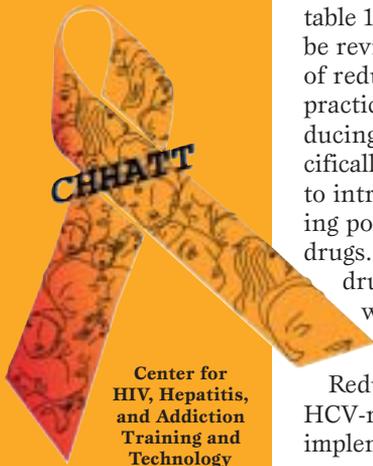
Reducing the burden of HCV infection and HCV-related disease in the United States requires implementation of primary prevention activities that

reduce risks for contracting HCV infection and secondary prevention activities that reduce the risk for chronic liver disease and other HCV-related chronic diseases<sup>1</sup>. In settings where various disease prevention and control services are provided (e.g., HIV testing and counseling sites, STD clinics, drug and/or alcohol treatment services), many persons might be identified as having high-risk behaviors for HCV infection. Offering HCV counseling and testing in these settings provides persons at risk with the opportunity for counseling on how to reduce their risk for becoming infected, and testing to determine their infection status. HCV-positive individuals can be provided with information regarding the need for medical evaluation to determine their disease status, availability and eligibility for antiviral therapy, how they can prevent further harm to their liver, and how they can prevent HCV transmission to others.

Integrating hepatitis prevention services into existing harm reduction and substance abuse treatment programs is an essential step towards prevention and control of these infections. Given that

**Table 1. Messages for Safer Injection Practices**

- Find a clean place to inject where you can safely prepare and dispose of injection equipment.
- Never reuse or “share” syringes, needles, water, or drug preparation equipment.
  - Use only sterile syringes obtained from a reliable source (e.g., pharmacies).
  - If injection equipment has been used by other persons, they should first clean the equipment with bleach and water.
- Use sterile water to prepare drugs; otherwise use clean water from a reliable source (such as tap water).
- Use a new or disinfected container (cooker) and a new filter (cotton) to prepare drugs.
- Clean the injection site before injection with a new alcohol swab.
- Safely dispose of syringes after one use.



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risk factors overlap for viral hepatitis infections, HIV infection, and other STDs, the prevention messages should be inclusive and comprehensive. Proper training of substance abuse health providers about the epidemiology and prevention of viral hepatitis and the skills needed to integrate counseling messages for hepatitis A, hepatitis B, hepatitis C, HIV and other STDs is necessary to achieve successful and effective integration of prevention services (refer to table 2). In addition, HCV-positive individuals in drug treatment settings might face additional challenges related to their viral hepatitis treatment regimen. Co-infection with multiple viruses, depression, and other factors need to be considered by health professionals in these settings.

Considering that most HCV-positive persons are chronically infected, it is important that those who test positive for HCV be advised on how they can avoid infecting others and how they can reduce their risk of liver disease. Such information should

**Table 2. Educational Programs and Curricula for Substance Abuse Treatment Staff should include:**

- information on hepatitis A, hepatitis B, hepatitis C, and HIV, including routes of transmission and risk factors for infection
- disease outcomes, the need for medical management and treatment options
- methods to prevent infection, including immunization (for hepatitis A and B) and harm reduction
- the importance of substance abuse treatment
- sexual transmission risks
- risk-reduction counseling, including not sharing drugs and drug paraphernalia
- resources in the community to support and sustain a reduction in risk behaviors

be provided by health care professionals who are knowledgeable about HCV transmission. HCV-positive persons should be told what this information means in terms of their day-to-day living and in a way they can understand. To reduce the risk of transmission to others, HCV-positive persons should be advised not to donate blood, organs, tissue or semen, not to share tooth brushes, dental appliances, razors or other personal care articles that might have blood on them and to cover cuts and sores on the skin to prevent the spread of infectious blood and secretions. To avoid further harm to the liver, they should be advised to not drink alcohol, not to start taking any new medicines, including over the counter and herbal medicines, without checking with their doctor and to get vaccinated against hepatitis A, if liver disease is found to be present, and hepatitis B (refer to table 3 for groups for whom hepatitis vaccinations are recommended).

Because the efficiency of sexual transmission of HCV is low, HCV-positive persons who are monogamous do not need to change their sexual practices. They should, however, discuss the risk (which is low but not absent) with their partner. If they want to lower the small chance of spreading HCV to their partner, barrier precautions, such as latex condoms, might be used. They should also discuss the need for counseling and testing with their partner. HCV-positive persons with multiple sex partners should use latex condoms correctly and every time to protect themselves and their partners from diseases

spread through sexual activity. (For more information on sexual transmission and hepatitis C see reference # 1.)

HCV-positive persons should also be counseled that HCV is not spread by sneezing, hugging, coughing, food, water or by sharing eating utensils, drinking glasses or by casual contact. Persons should not be excluded from work, school, play, childcare or other settings based on their HCV infection status. Involvement with a support group might help HCV-infected persons cope with the various issues related to their HCV infection.

***What are the major issues related to hepatitis C prevention and control that health professionals, especially those in the field of addiction treatment, should keep in mind when dealing with clients?***

Substance abuse treatment provides the opportunity for HCV and HIV prevention. Health professionals working in this field should know that the majority of their clients might already be infected with the HCV if they have ever injected illegal drugs. However, if clients are continuing to inject drugs they might be infecting others. The addiction treatment setting provides a unique opportunity for primary prevention of HCV-negative persons who may be at increased risk for HCV infection. Addiction treatment providers should review the risks of transmission for HCV with any client they feel might be infected or at risk for infection with HCV. Risk reduction counseling should be provided, including prevention messages about preventing HCV transmission through drug use and not sharing drug paraphernalia (see messages for injection safety). The drug treatment setting provides an opportunity to immunize at risk clients against hepatitis A and hepatitis B given that many clients will return multiple times while enrolled in substance-abuse treatment programs. Clients should receive the hepatitis A vaccine series (2 doses, given at 0 and 6 months) and the hepatitis B vaccine series (3 doses, usually given at 0, 1 and 6 months) at the same time as they receive treatment services.

### **Who should be tested for hepatitis C?**

*Persons who should be tested routinely for HCV based on their risk for infection:*

- Persons who ever injected illegal drugs, including those who injected once or a few times many years ago and do not consider themselves as drug users.
- Persons with selected medical conditions, including
  - persons who received clotting factor concentrates produced before 1987;
  - persons who were ever on chronic (long-term) hemodialysis; and
  - persons with persistently abnormal alanine aminotransferase levels.
- Prior recipients of transfusions or organ transplants, including
  - persons who were notified that they received blood from a donor who later tested positive for HCV infection;
  - persons who received a transfusion of blood or blood components before July 1992; and
  - persons who received an organ transplant before July 1992.

Persons who should be tested routinely for HCV-infection based on a recognized exposure:

- Health care, emergency medical, and public safety workers after needle sticks, sharps, or mucosal exposures to HCV-positive blood.
- Children born to HCV-positive women.

Persons for whom routine HCV testing is NOT recommended (For the following persons, routine testing is not recommended unless they have risk factors for infection):

- Health-care emergency medical, and public safety workers.
- Pregnant women.
- Household (nonsexual) contacts of HCV-positive persons.
- The general population.

Persons for whom routine HCV testing is of UNCERTAIN need.

Not a common risk factor for HCV and prevalence of infection low.

- Recipients of transplanted tissue (e.g. corneal, musculo-skeletal, skin, ova, sperm)
- Intranasal cocaine and other non-injecting illegal drug users.
- Persons with a history of tattooing or body piercing.

Common risk factor for HCV but prevalence of infection low

- Persons with a history of multiple sex partners or sexually transmitted diseases.
- Long-term steady sex partners of HCV-positive persons.

People who believe they are at risk for HCV infection should talk to their health care provider about being tested for HCV.

**Where can local substance abuse administrators or agency directors go to find current information about the prevalence of HCV infection in their state?**

Currently, there are no overall state based prevalence data collected. However, several states collect prevalence data on specific populations. The best place administrators should go to for prevalence data is their state health department. Almost every state health department has a hepatitis C coordinator who can help you find the prevalence data that are available. You can find a list of hepatitis C coordinators on the CDC website at [www.cdc.gov/ncidod/diseases/hepatitis/resource/coordinators.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/resource/coordinators.htm). The disease burden from viral hepatitis A,

B, and C in the United States can also be found on the CDC website at [www.cdc.gov/ncidod/diseases/hepatitis/resource/dz\\_burden02.htm](http://www.cdc.gov/ncidod/diseases/hepatitis/resource/dz_burden02.htm).

### Why is HCV infection found in patients infected with HIV?

In the United States, in the year 2000, there was an estimated 240,000 persons coinfecting with HCV and HIV, which was ~30 percent of the estimated 800,000 individuals with HIV infection<sup>5</sup>. Because HCV and HIV are both transmitted by percutaneous exposure to blood coinfection is common in IDUs and persons with hemophilia who received clotting factor concentrates before concentrates were effectively treated to inactivate both viruses (i.e., products made before 1987)<sup>6</sup>. The risk for acquiring infection through perinatal or sexual exposures is much lower for HCV than for HIV. For persons infected with HIV through sexual exposure (e.g., male-to-male sexual activity), coinfection with HCV is no more common than among similarly aged adults in the general population (3%–5%)<sup>5</sup>.

HIV-HCV-coinfecting patients should be evaluated for chronic liver disease and the possible need for treatment. HCV infection might also impact the course and management of HIV infection. Limited data exist regarding the safety and efficacy of antiviral treatment of patients coinfecting with HIV and HCV. Moreover, because the optimal means of treating coinfecting patients has not been established and many HIV-infected patients have conditions that complicate therapy (e.g., depression or illicit drug use), this care should occur in a clinical trial or be coordinated by providers with experience treating both HIV and HCV infections<sup>7</sup>. The latest U.S. Public Health Service/ Infectious Diseases Society of America (USPHS/IDSA) guidelines recommend that all HIV-infected persons should be screened for HCV infection. Prevention of HCV infection for those not already infected and reducing chronic liver disease in those who are infected are important concerns for HIV-infected individuals and their health care providers<sup>7</sup>.

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*(see references on back page)*

**Table 3. Groups for Whom Hepatitis Vaccination is Recommended**

Hepatitis A Vaccine	Hepatitis B Vaccine
<ul style="list-style-type: none"> <li>• illegal injection and non-injection drug users</li> <li>• sexually active MSM</li> <li>• children living in certain parts of the United States where hepatitis A rates have been consistently elevated</li> <li>• international travelers visiting or working in countries except Canada, Western Europe, Japan, Australia, and New Zealand</li> <li>• persons receiving clotting factor concentrates</li> <li>• persons with chronic liver disease</li> </ul>	<ul style="list-style-type: none"> <li>• sexually active MSM</li> <li>• all persons treated in an STD setting who have not been previously vaccinated</li> <li>• persons with a recent history of an STD</li> <li>• persons with multiple sex partners (&gt; one in 6 months)</li> <li>• household members, sex or drug sharing partners of persons with chronic HBV infection</li> <li>• persons on chronic hemodialysis</li> <li>• persons receiving clotting factor concentrates</li> <li>• persons with occupational exposure to blood</li> <li>• persons who receive services in drug treatment programs</li> <li>• persons in correctional facilities</li> <li>• all persons &lt; 18 years old not previously vaccinated</li> </ul>



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