HEPATITIS C

Also known as Non-A Non-B Hepatitis, HCV Infection

Responsibilities:
Hospital: Report by IDSS, facsimile, mail or phone
Lab: Report by IDSS, facsimile, mail or phone
Physician: Report by IDSS, facsimile, mail or phone
Local Public Health Agency (LPHA): Followup dependent on local agency protocol

Iowa Department of Public Health
Disease Reporting Hotline: (800) 362-2736
Secure Fax: (515) 281-5698

1) THE DISEASE AND ITS EPIDEMIOLOGY

A. Etiologic Agent
Hepatitis C is caused by an RNA virus (in the Flaviviridae family). Multiple hepatitis C virus (HCV) genotypes exist, with type 1 being most common in the United States.

B. Clinical Description
Hepatitis C is a disease with varying rates of progression. In general, its course is slowly progressive. For people who are recently infected, only 20% - 30% will experience any related acute symptoms. Therefore, it is uncommon for people to be diagnosed with HCV infection in the acute stage. About 15% of HCV-infected individuals completely recover spontaneously (reasons for this are still unknown), however the remainder develops chronic infection.

Most people are asymptomatic during the first decade or two of chronic hepatitis C. Some patients will experience a range of symptoms including fatigue, headaches, joint aches, muscle aches, nausea, jaundice, loss of appetite, and/or abdominal pain. Of those chronically infected, about 20% eventually develop cirrhosis or cancer of the liver [hepatocellular cancer (HCC)]. Cirrhosis can lead to liver failure in some people and predispose them to the development of liver cancer. The progression chart (under Hepatitis C in the Epi Manual) illustrates the natural history of hepatitis C. Factors related to more serious clinical outcomes include drinking alcohol, coinfection with hepatitis A, hepatitis B, or HIV, and taking medications or food supplements that harm the liver.

Treatment of chronic hepatitis C with pegylated interferon with or without ribavirin is indicated for some individuals and may result in a sustained response with elimination of virus in up to 50% - 80% of those receiving a full 6 - 12 months of treatment.

C. Reservoirs
Infected humans are the only known source of this disease.

D. Modes of Transmission
Hepatitis C is a bloodborne pathogen; it is predominantly spread via percutaneous exposure to infectious blood or blood products. Currently, the most prevalent mode of transmission is sharing needles or syringes to inject illicit drugs. Blood transfusions pose an extremely limited risk today, but for those patients who received a blood transfusion prior to July 1992, the risk was approximately 1 in 200 transfused units. Sexual and vertical (mother to infant) transmission of hepatitis C does occur, but does not appear to be an efficient mode of transmission. Other potential risks for transmission include long-term hemodialysis, occupational blood exposure, and tattooing or body piercing with non-sterilized equipment. Hepatitis C is not spread via casual contact, kissing, sneezing, hugging, breast milk, or sharing glasses or utensils.
E. Incubation Period
The incubation period for hepatitis C ranges from 2 weeks to 6 months, with an average incubation period of 6 - 9 weeks.

F. Infectious Period
Infectiousness with HCV is variable; anyone with a positive test for HCV antibody should be considered infectious until more extensive testing can be done to rule out the presence of the virus in the blood. The virus can usually be detected in an infected person’s blood within 1 - 3 weeks after the initial exposure. The degree of correlation between quantity of circulating virus and infectiousness is not clearly established.

G. Epidemiology
Hepatitis C has a worldwide distribution. In the United States an estimated 3-4 million people are infected with HCV. It is thought that there are currently about 17,000 new cases of hepatitis C infection each year. HCV infection occurs among persons of all ages, with the highest incidence of acute hepatitis C (new cases) occurring among persons aged 20 - 39 years. Prevalence is highest among groups with specific risk factors, especially injection drug users, patients with hemophilia or on long-term hemodialysis, prisoners, and people who received blood or organ products prior to July 1992. HCV infection is highly prevalent (50% – 95%) among injection drug users (IDUs) and rapidly acquired after drug users first inject drugs. Several studies have now shown that HCV transmission among IDUs is associated with both direct and indirect sharing of injection equipment such as cookers and cotton. The risk of occupational exposure for healthcare workers has been estimated to be 1.8% per incident of hollow-bore needle stick exposure to HCV-infected blood. Perinatal transmission is estimated as being about 5%, although if the mother is coinfected with HIV, the risk may be increased to approximately 15%.

Hepatitis C is a reportable disease in Iowa. The majority of newly reported cases are not people with new (acute) disease, but those with chronic infection. There is a large population of undiagnosed people who were infected in the past.

H. Bioterrorism Potential
None.

2) DISEASE REPORTING AND CASE INVESTIGATION

A. Purpose of Surveillance and Reporting
- To provide information to HCV-infected persons on how to prevent exposing others.
- To identify HCV-infected patients to ensure that they are educated on the need for medical evaluation, how to reduce disease progression, and to provide referrals to medical or support services.
- To determine the prevalence of HCV in specific populations and geographic locations to better direct HCV prevention and service activities.

B. Laboratory and Healthcare Provider Reporting Requirements
Iowa Administrative Code 641-1.3(139) stipulates that the laboratory and the healthcare provider must report cases of hepatitis C. Report any case with a positive result on any of the following tests:
- EIA (ELISA) HCV antibody
- RIBA
- Viral RNA by RT-PCR or bDNA
- Genotype testing

Note: Please feel free to consult with the Adult Viral Hepatitis Prevention Coordinator at the Bureau of HIV, STD, and Hepatitis at (515) 281-5027 for assistance in interpreting laboratory results or if you have any other questions regarding a case of hepatitis C infection.

Iowa Administrative Code 641-1.3(139) stipulates that the laboratory and the healthcare provider must report. The preferred method of reporting is by utilizing the Iowa Disease Surveillance System (IDSS). However, if IDSS is not available to your facility the reporting number for IDPH Center for Acute Disease Epidemiology (CADE) is (800) 362-2736; fax number (515), 281-5698, mailing address:
Laboratory Testing Services Available
The State of Iowa University Hygienic Laboratory (SHL) does not provide routine HCV antibody testing for the general public. Testing is generally conducted through hospital and commercial clinical laboratories. Some county health departments are currently offering the HCV EIA antibody test. Please contact the Adult Viral Hepatitis Prevention Coordinator at the Bureau of HIV, STD, and Hepatitis at (515) 281-5027 for the listing of county health departments offering this service.

3) CONTROLLING FURTHER SPREAD

A. Isolation and Quarantine Requirements

Minimum Period of Isolation of Patient
No restrictions except for exclusion from organ and blood donation and counseling to modify activities in order to prevent transmission.

Note: Sexual transmission of hepatitis C does occur, but is infrequent.

Minimum Period of Quarantine of Contacts
None

B. Protection of Contacts of a Case
Personal surveillance for high-risk contacts is recommended. Personal surveillance is defined as the practice of close medical or other supervision of contacts without restricting their movements in order to promote recognition of infection or illness.

Standard Precautions for cases are recommended to prevent exposing others to blood and body fluids. Immune Globulin prophylaxis is not effective and is not recommended for those exposed to HCV-infected individuals, such as healthcare workers who receive a needle stick with a contaminated needle.

C. Managing Special Situations
There are no specific regulations regarding HCV infection in child care settings, food service environments, or in schools or community residential programs. HCV is not spread via casual contact or through food or water. As long as Standard Precautions are maintained, HCV will not be spread to others in these settings. No one who is HCV-infected should be excluded from attending or working in any of these settings on the basis of their HCV infection.

D. Preventive Measures
The role of the local health department in managing hepatitis C is largely educating infected persons how to care for themselves and avoid spreading infection to others. Little epidemiologic investigation is required except data collection for case reports. Prevention and education includes information on how the disease is transmitted, how to avoid transmitting it, and how patients can protect themselves from more liver damage. Offer the information and support below to newly identified cases.

1. Provide basic instruction on transmission of HCV and emphasize the need for ongoing medical evaluation. Treatment is available and the patient should be referred to their healthcare provider for treatment options.
2. If the patient is a current injection drug user, provide referrals to needle access and disposal programs and drug treatment programs. This will help prevent the spread of hepatitis C to other individuals.
3. Educate on the need to completely abstain from alcohol to help protect the liver. If a patient needs or wants support to stop drinking, provide referrals to appropriate treatment or support services.

4. Discuss medications that should be avoided (e.g., acetaminophen) as high doses of certain medications can damage the liver. All patients should discuss any medications (including over-the-counter medications), dietary supplements, and herbs with a healthcare provider prior to taking them to be certain they will not damage their liver.

5. Provide information on hepatitis A and B immunization. (Refer to the Hepatitis A and B chapters in this manual.)

6. Discuss sexual transmission of HCV. Indicate that HCV may be transmitted during sex. All contact with blood during sex should be avoided. Emphasize latex barrier protection as a way to prevent the spread of HCV, as well as being a way to prevent the exposure to and transmission of other pathogens.

7. Discuss household transmission of HCV. Household transmission is rare, but to ensure that it does not happen, the patient should not share razors, toothbrushes, nail clippers, or any other item that could be contaminated with blood with other household members.

8. Inform the patient that they should not be restricted from working, preparing food, or taking part in their daily activities unless they have specific symptoms that make it difficult to do so. There are no recommendations suggesting that HCV-infected persons change their exercise routines or have any dietary restrictions.

4) ADDITIONAL INFORMATION

The Council of State and Territorial Epidemiologists (CSTE) surveillance case definitions for Hepatitis C can be found at: [www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top](http://www.cdc.gov/osels/ph_surveillance/nndss/phs/infdis.htm#top)

CSTE case definitions should not affect the investigation or reporting of a case that fulfills the criteria in this chapter. (CSTE case definitions are used by the state health department and the CDC to maintain uniform standards for national reporting.)

References


Resources

CDC Hepatitis C website: [www.cdc.gov/hepatitis/HCV/index.htm](http://www.cdc.gov/hepatitis/HCV/index.htm)