

Introduction to Communicable Disease Surveillance and Investigation in North Carolina



Hepatitis C

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Learning Objectives

1. Investigate and correctly classify a physician-reported case of acute Hepatitis C Viral infection (HCV)
2. Differentiate between laboratory tests used to detect HCV infection
3. Know the responsibilities of the public health nurse to the client diagnosed with HCV



Hepatitis C is a contagious blood borne liver disease.



Hepatitis C, Acute

2012 Case Definition

CSTE Position Statement Number: 11-ID-05

Clinical Description

An acute illness with a discrete onset of any sign or symptom* consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, and abdominal pain), and either a) jaundice, or b) elevated serum alanine aminotransferase (ALT) levels >400IU/L.

*A documented negative HCV antibody laboratory test result followed within 6 months by a positive test (as described in the laboratory criteria for diagnosis) result does not require an acute clinical presentation to meet the surveillance case definition.

Laboratory Criteria for Diagnosis

One or more of the following three criteria:

Antibodies to hepatitis C virus (anti-HCV) screening-test-positive with a signal to cut-off ratio predictive of a true positive as determined for the particular assay as defined by CDC. (URL for the signal to cut-off ratios: <http://www.cdc.gov/hepatitis/HCV/LabTesting.htm>), OR

Hepatitis C Virus Recombinant Immunoblot Assay (HCV RIBA) positive, OR

Nucleic Acid Test (NAT) for HCV RNA positive (including qualitative, quantitative or genotype testing)

AND, if done meets the following two criteria:

Absence of IgM antibody to hepatitis A virus (if done) (IgM anti-HAV), AND

Absence of IgM antibody to hepatitis B core antigen (if done) (IgM anti-HBc)

Case Classification

Confirmed

A case that meets the clinical case definition, is laboratory confirmed, and is not known to have chronic hepatitis C.



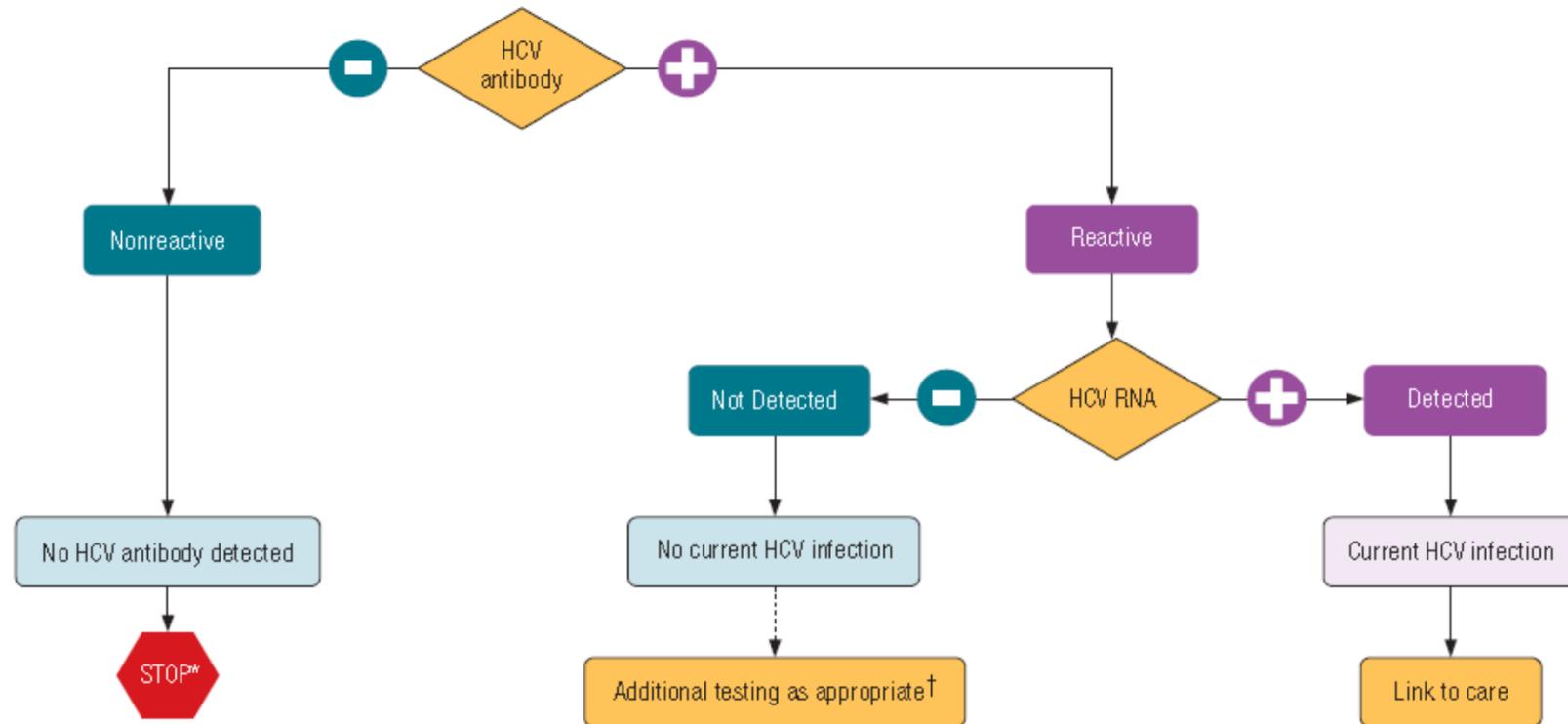
Laboratory Testing for Hepatitis C



Recommended Testing Sequence for Identifying Current Hepatitis C Virus (HCV) Infection



U.S. Department of Health and Human Services
Centers for Disease Control and Prevention



* For persons who might have been exposed to HCV within the past 6 months, testing for HCV RNA or follow-up testing for HCV antibody is recommended. For persons who are immunocompromised, testing for HCV RNA can be considered.

† To differentiate past, resolved HCV infection from biologic false positivity for HCV antibody, testing with another HCV antibody assay can be considered. Repeat HCV RNA testing if the person tested is suspected to have had HCV exposure within the past 6 months or has clinical evidence of HCV disease, or if there is concern regarding the handling or storage of the test specimen.

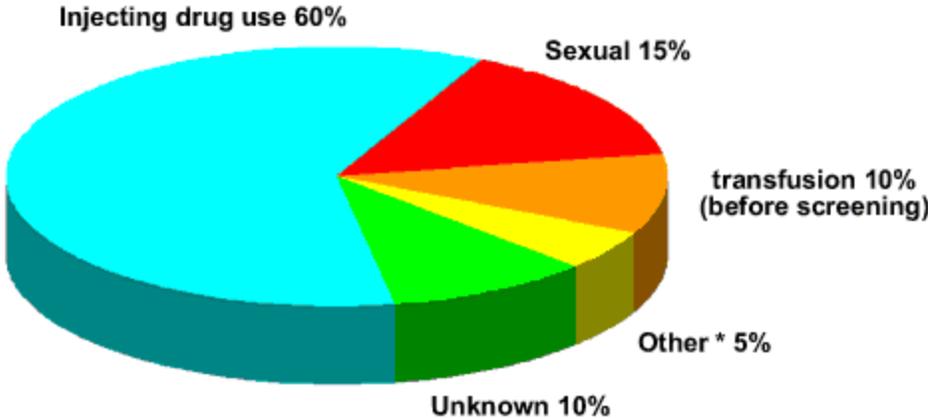
Source: CDC. Testing for HCV infection: An update of guidance for clinicians and laboratorians. *MMWR* 2013;62(18).

HCV testing is recommended for anyone at increased risk for HCV infection, including:

- Persons born from 1945 through 1965 (Baby Boomers)
- Persons who have ever injected illegal drugs, including those who injected only once many years ago
- Recipients of clotting factor concentrates made before 1987
- Recipients of blood transfusions or solid organ transplants before July 1992
- Patients who have ever received long-term hemodialysis treatment
- Persons with known exposures to HCV, such as:
 - health care workers after needlesticks involving HCV-positive blood
 - recipients of blood or organs from a donor who later tested HCV-positive
- All persons with HIV infection
- Patients with signs or symptoms of liver disease (e.g., abnormal liver enzyme tests)
- Children born to HCV-positive mothers (to avoid detecting maternal antibody, these children should not be tested before age 18 months)



Sources of Infection for Persons with Hepatitis C



*Nosocomial: Health-care work; Perinatal

Source: Centers for Disease Control and Prevention



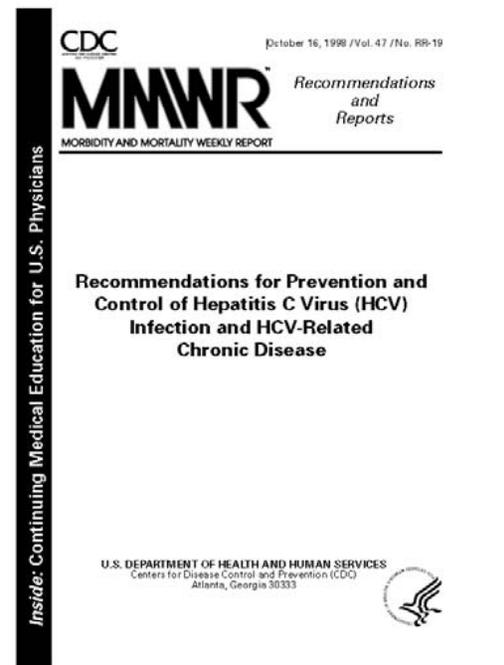
Prevention

No vaccine for Hepatitis C

10A NCAC 41A .0214 - CONTROL MEASURES - HEPATITIS C

Universal Precautions.

Risk Reduction



Treatment

Approximately 15%–25% of people who get Hepatitis C will clear the virus from their bodies without treatment and will not develop chronic infection.

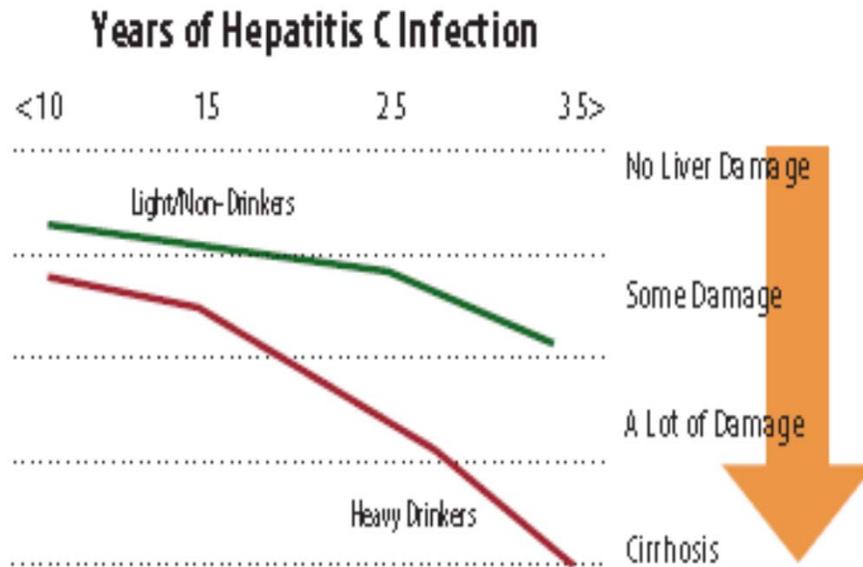
Not everyone chronically infected will need treatment, treatment decisions are individualized on many factors, fibrosis of liver key among them

Combination therapy with pegylated interferon and ribavirin has been the treatment of choice

New antiviral treatments without interferon are now in trials with greater cure rates and significant reductions in adverse events in the results available



Steps to Reduce Liver Damage



Source: Hepatitis C and Alcohol, What you should know to make informed decisions about your health. VA Hepatitis C Resource Centers, U.S. Department of Veterans Affairs

Recommendations for persons living with Hepatitis C

1. **Avoid alcohol consumption**
2. **Do not start new medications, including herbal or over-the-counter medications, without consulting a physician**
3. **Get vaccinated for hepatitis A and B**

References

Staying Informed: Anticipating New Regimens with Direct Acting Antivirals for Hepatitis C, Rena K.

Fox, MD, United States Department of Veteran Affairs, Hepatitis C Resource Center (HCRC)

<http://www.hepatitis.va.gov/provider/topics/treatment-new-drugs.asp> accessed 10/16/13

Microbiology and Immunology On-line, University of South Carolina School of Medicine. VIROLOGY CHAPTER EIGHTEEN HEPATITIS VIRUSES, Dr Richard Hunt:

<http://pathmicro.med.sc.edu/virol/hepatitis-virus.htm>

Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis, MMWR, June 29, 2001, Vol.50 (RR11).

Recommendations for the Identification of Chronic Hepatitis C Virus Infection Among Persons Born During 1945–1965 [MMWR 2012; Vol. 61 \(RR-4\)](#)

Recommendations for Prevention and Control of Hepatitis C Virus (HCV) Infection and HCV-Related Chronic Disease [MMWR 1998;47\(RR-19\)](#)

