



# HEPATITIS C

1. **Agent:** Hepatitis C virus (HCV).

2. **Identification:**

a. **Symptoms:** Onset is usually insidious with anorexia, abdominal discomfort, nausea and vomiting and (20-30%) with progression to jaundice. More than 90% of cases are typically asymptomatic or have mild disease. 70-80% develop chronic liver disease and of those with chronic infection: 5-20% develop cirrhosis after 20-30 years, and 1-5% die from liver cancer or cirrhosis. Fulminant hepatic failure following infection is rare.

b. **Differential Diagnosis:** Other causes of viral and non-viral hepatitis.

c. **Diagnosis of acute HCV infection:**

Clinical criteria:

- Jaundice **OR** serum alanine aminotransferase (ALT) >200 IU/L **OR** total bilirubin  $\geq$  3.0 mg/dL;  
**AND**
- Absence of a more likely diagnosis.

Laboratory criteria:

- Positive Hepatitis C virus detection test: nucleic acid test (NAT) for HCV RNA (including qualitative, quantitative or genotype) or HCV antigen test.

d. **Case Classification:**

All hepatitis C virus cases in each classification category should be > 36 months of age. ACDC will investigate perinatal cases ( $\leq$  36 months of age).

1) Acute

a) *Confirmed:*

- Meets clinical criteria and has positive HCV detection test  
**OR**
- Evidence of seroconversion from a negative to a positive antibody or HCV detection test

b) *Probable:*

- Meets clinical criteria **AND**
- Has positive HCV antibody test **AND**
- Does not have a positive hepatitis C virus detection test

2) Chronic/Carrier

If case does not meet confirmed or probable acute case definitions but has a positive HCV test, classify as:

a) *Confirmed:*

- Positive HCV NAT (PCR) or positive HCV antigen test.

b) *Probable:*

- Positive anti-HCV but no positive Hepatitis C virus detection test.

3) All others: close as False (i.e., not an acute or chronic hepatitis C case)

3. **Incubation:** Variable, 2 weeks to 6 months; average 40 days.

4. **Reservoir:** Human.

5. **Source:** Blood or blood products.

6. **Transmission:** By parenteral inoculation or mucous membrane, exposure to human blood or blood products.

7. **Communicability:** An individual is considered infectious anytime HCV RNA is present in the blood. HCV RNA can be detected in the blood or plasma 1 to 2 weeks after exposure and weeks before symptom onset.

8. **Specific Treatment:** Multiple antiviral drugs are available to treat HCV. With the exception of pregnant women and children under 3 years of age, people with acute or chronic hepatitis C should be treated for their infection.



9. **Immunity:** Prior infection with HCV does not protect against later reinfection of the virus after treatment or spontaneous clearance of the virus. There is currently no approved HCV vaccine.

## REPORTING PROCEDURES

1. Reportable, *California Code of Regulations*, Section 2500, 2505.
2. **Report Form: VIRAL HEPATITIS C CASE REPORT<sup>1</sup>.**

Chronic carriers of anti-HCV are not investigated with these forms.

3. **Epidemiologic Data:**
- a. Record results of laboratory tests: HAV IgM, HBsAg, IgM anti-HBc, Hepatitis B Nucleic Acid Test (NAT) (HBV DNA), anti-HCV, HCV PCR, ALT, AST, and total Bilirubin levels.
  - b. Reason for medical visit leading to diagnosis. This may be helpful in determining if case is acute or chronic hepatitis C.
  - c. Contact with confirmed or suspected acute or chronic hepatitis C infection.
  - d. Patient was treated for a sexually transmitted disease.
  - e. Patient or employee of a renal dialysis unit.
  - f. Resident of a long-term facility (e.g. nursing home).
  - g. Receive fingersticks.
  - h. Contact with or injection of contaminated blood; accidental inoculation by needle (laboratory), accidental splash into the eye.
  - i. Transfusions of blood or blood products: places, dates, lot numbers, manufacturer.

- j. Patient has received any IV infusions and/or injections in the outpatient setting.
- k. Medical or dental treatment within past 6 months, including types of injections, surgical procedures performed or any diagnostic medical procedure including colonoscopy/endoscopy.

**NOTE:** Please notify ACDC if the only risk factors/exposures are healthcare associated. Provide information about provider, healthcare facility, date(s) of service, procedures received, etc.

- l. Occupational history, especially medical-dental personnel or public safety worker (law enforcement/correctional officer) and those involved in handling blood or blood products.
- m. Blood donation, date, and location of last donation.
- n. Patient has undergone acupuncture.
- o. Percutaneous exposure: self-injections (admitted or suspected), tattooing, ear piercing, acupuncture, electrolysis, skin-piercing procedures, etc.
- p. Use of injection or non-injection street drugs.
- q. For child case, status of mother and other sibling(s) should be evaluated. If pertinent, testing of mother's long-term sexual partner may be considered at the discretion of the mother's physician and child's mother.
- r. Number of sexual partners of all genders.

## CONTROL OF CASE, CONTACTS & CARRIERS

Investigate within 3 days. The **VIRAL HEPATITIS C CASE REPORT<sup>1</sup>** is for acute cases only. No forms need to be submitted for chronic cases.

<sup>1</sup> <http://publichealth.lacounty.gov/acd/Diseases/EpiForms/HepatitisCRep.pdf>



### CASE:

1. No restrictions.
2. Advise cases to seek evaluation for HCV treatment.

### CONTACTS:

1. For persons exposed to blood or sexual secretions of infected person, provide education about disease and transmission risk (including during pregnancy). Advise contacts to be screened for HCV and treated if positive.
2. No restrictions.

### PREVENTION-EDUCATION

1. Refer to appropriate personal health care provider for follow-up and treatment. There are now safe and highly effective medications that can treat almost everyone with chronic HCV infection.
2. Advise the patient that disease may be transmitted by shared articles that become contaminated with blood (needles, syringes, razors, toothbrushes, etc.) as well as possible sexual and perinatal transmission.
3. Individuals should be counseled about the risk of sexual transmission of HCV if they have multiple sexual partners and should be advised to use barrier precautions such as latex condoms. Since long-term sexual partners are at risk for acquiring HCV infection, use of barrier precautions should be discussed between the patient and his/her physician.
4. Emphasize sanitary disposal of blood and other body secretions.

5. Advise patient that people with a history of viral hepatitis are excluded from blood donor programs.
6. Advise patient to abstain from alcohol and not to start any new medications, including over-the-counter and herbal medicines, without first checking with their doctor.
7. For all cases advise vaccination against hepatitis A and hepatitis B.
8. HCV-positive mothers may breast feed but should abstain if nipples become cracked or bleed.

### DIAGNOSTIC PROCEDURES

Clinical and epidemiologic history is required to aid laboratory in test selection.

#### Serology:

Diagnosis is made by a positive anti-HCV screening test and verified by a supplemental test – HCV PCR (HCV NAT).

**Container:** Serum separator tube (SST, a red-gray top vacutainer tube)

**Laboratory Form:** [TEST REQUISITION FORM \(H-3021\)<sup>2</sup>](#)

**Examination Requested:** PHL performs the following Hepatitis C tests:

- Hepatitis C Antibody w/ Reflex to HCV PCR/RNA NAAT
- Hepatitis C Viral RNA Qualitative
- Hepatitis C Viral Load
- Hepatitis C Virus Genotyping

**Material:** Whole clotted blood.

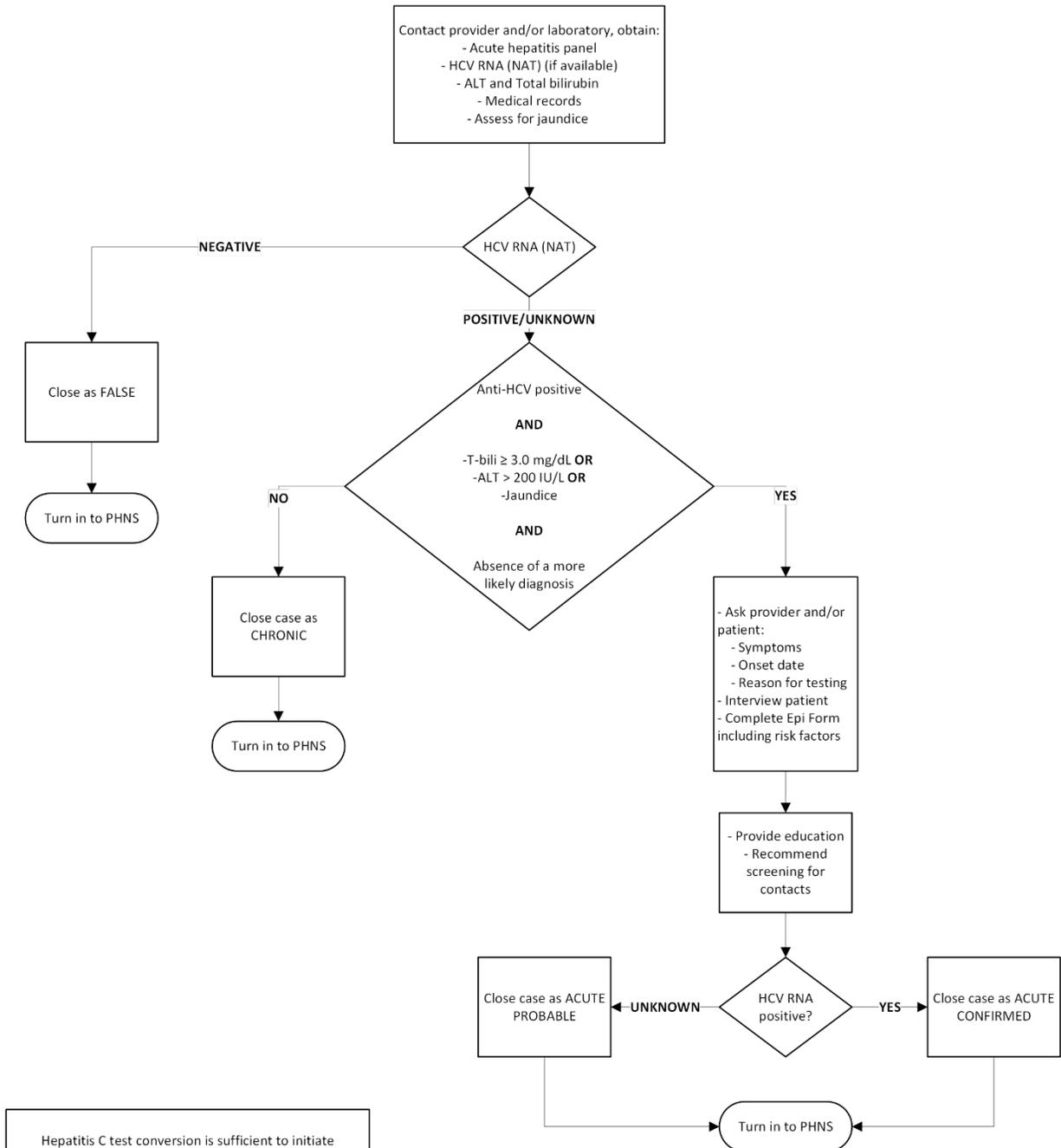
**Amount** 8-10 ml.

**Storage:** Refrigerate.

<sup>2</sup> [www.publichealth.lacounty.gov/lab/docs/H-3021%20Test%20Request%20Form.pdf](http://www.publichealth.lacounty.gov/lab/docs/H-3021%20Test%20Request%20Form.pdf)



## Hepatitis C Case Classification Algorithm



Hepatitis C test conversion is sufficient to initiate investigation and manage cases and contacts according to the confirmed acute hepatitis C algorithm.

**Test Conversion:**

- Anti-HCV test conversion - Negative HCV antibody followed within 12 months by a positive HCV antibody test
- OR**
- HCV RNA test conversion - Negative HCV antibody OR negative hepatitis C virus detection test (in someone without a prior diagnosis of HCV infection) followed within 12 months by a positive hepatitis C virus detection test (HCV RNA test conversion)