

HEALTH SERVICES POLICY & PROCEDURE MANUAL

North Carolina Department Of Correction
Division Of Prisons

SECTION: Clinical Practice Guidelines

POLICY # CP-2

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SUBJECT: Hepatitis

EFFECTIVE DATE: October 2007
SUPERCEDES DATE: September 2003

PURPOSE

To provide guidelines on the treatment and care of patients with Hepatitis.

POLICY

Hepatitis is an injury to hepatic cells and an inflammatory process in the liver. The major causes of hepatitis are viruses. Acute viral hepatitis may be caused by virus Types A, B, C, D, and E. The viruses have similar clinical manifestations but are transmitted by different routes. Therefore, it is important that medical staff be able to differentiate between them in order to develop the most effective treatment plan.

PROCEDURE

I. HEPATITIS A

A. Identification:

1. Other name: Infectious hepatitis
2. Routes of transmission:
 - a. Fecal - oral
 - b. Spread by feces, saliva and contaminated food and water
3. Incubation period: 15 to 50 days
4. Infectivity period: Latter half of the incubation period until 1 - 2 weeks after symptoms start

B. Diagnosis:

1. Clinical markers: abrupt onset with fever, malaise, anorexia, nausea and abdominal discomfort, followed within a few days by jaundice.
2. Laboratory testing: Anti-HAV IgM
3. Prognosis:
 - a. Rarely fatal
 - b. No carrier state or chronicity
 - c. Lifelong immunity

C. Procedures:

1. Transfer inmate with clinical symptoms of hepatitis to an acute care, inpatient facility during the acute phase of the disease process.
2. Standard and enteric precautions indicated.
3. After laboratory confirmation; Complete the VIRAL HEPATITIS CASE REPORT (CDC 53.1) and NORTH CAROLINA COMMUNICABLE DISEASE REPORT CARD (DHHS 2124). Forward completed forms to your local county health department, with copies in the inmate's medical record (Section II).

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II. HEPATITIS B

A. Identification:

1. Other name: Serum hepatitis
2. Routes of transmission:
 - a. Parenteral or sexual
 - b. Spread by blood and blood products (via transfusion, needle stick or IV drug use); body fluids such as saliva, semen and vaginal secretions; maternal-fetal contact; and unknown exposures
3. Incubation period: 45 to 160 days
4. Infectivity period: Begins before symptoms appear and may continue for patient's lifetime if he becomes a carrier.

B. Diagnosis:

1. Clinical markers: Insidious onset with anorexia, vague abdominal discomfort, nausea and vomiting, sometimes arthralgias and rash, often progressing to jaundice. Fever may be absent or mild.
2. Laboratory testing and interpretations:

HBsAG	Anti-HBs	Anti-HBc	Interpretation
+	-	IgM	Acute HBV infection, high infectivity
+	-	IgG	Chronic HBV infection, high infectivity
+	-	IgG	Late-acute or chronic HBV infection, low infectivity
+	+	+	1 HBsAg of one subtype and hetero-typic anti-HBs (common) 2 Process of seroconversion from HBsAg to anti-HBs (rare)
-	-	IgM	1 Acute HBV infection 2 Anti-HBc window
-	-	IgG	1 Low-level HBsAg carrier 2 Remote past infection
-	+	IgG	Recovery from HBV infection
-	+	-	1 Immunization with HBsAg (after vaccination) 2 Remote past infection (?) 3 False-positive

3. Prognosis:

- High mortality rate
- Patient can become immune or become a chronic carrier; 5-10% of cases progress to chronic hepatitis
- Chronic hepatitis B associated with liver cancer
- Chronic carriers exhibiting risk factors associated with transmission may re-enter the infectious state
- Chronic hepatitis B is defined as a person who is HBsAg positive on two occasions at least six months apart or remains HBsAg positive six months following an acute hepatitis B infection.

NOTE: Hepatitis D may coexist or develop with Hepatitis B

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C. Procedures

1. Transfer inmate with clinical symptoms of hepatitis to an acute care treatment facility during acute phase of Hepatitis B infection.
2. Universal precautions indicated.
3. Medical staff will counsel inmate and complete form DC-474, COUNSELING OF INMATES WITH HEPATITIS B INFECTION.
4. Reporting:
 - a. Acute Hepatitis B:
After laboratory confirmation complete the VIRAL HEPATITIS CASE REPORT (CDC 53.1) and NORTH CAROLINA COMMUNICABLE DISEASE REPORT CARD (DHHS 2124). Forward completed forms to your local county health department with copies in the inmate's medical record (section II).
 - b. Hepatitis B Carriers:
Complete the HEPATITIS B CARRIER SURVEILLANCE REPORT (DEHNR 3784) and NORTH CAROLINA COMMUNICABLE DISEASE REPORT CARD (DEHNR 2124). Forward completed forms to your local county health department with copies in the inmate's medical record (section II).

III. HEPATITIS C

A. Identification

1. Other name: Post transfusion non-A, non-B hepatitis; non-A, non-B hepatitis
2. Routes of transmission:
 - a. Parenteral
 - b. Spread by blood and blood products (via transfusion, needle stick, or IV drug use) and unknown exposures
3. Incubation period 14 to 180 days
4. Infectivity period: Begins before onset of symptoms and may continue for patient's lifetime if he becomes a carrier.

B. Diagnosis

1. Clinical markers: Insidious onset with anorexia, vague abdominal discomfort, nausea and vomiting, progressing to jaundice less frequently than hepatitis B.
2. Laboratory testing:
 - a. IgM anti-HAV negative, and
 - b. IgM anti-HBc negative if done or HBsAg negative, and
 - c. Serum aminotransferase (or other liver function tests) levels greater than 2.5 times the upper limit of normal.
 - d. Antibody to hepatitis C virus positive, verified by a supplemental test.

The tests for antibody to hepatitis C virus (anti-HCV) is positive in the majority of patients with chronic hepatitis C. In patients with acute disease, there may be a prolonged interval between exposure to the virus or the onset of illness and detection of anti-HCV.

3. Prognosis:
 - a. Patient can become chronic carrier: 50% of all cases progress to chronic hepatitis and 20% of all chronic cases progress to cirrhosis.

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- b. Possibly associated with liver cancer

C. Procedures

1. Transfer inmate with clinical symptoms of hepatitis to an acute care inpatient facility during acute phase.
2. Standard precautions indicated.
3. After laboratory confirmation, complete the VIRAL HEPATITIS CASE REPORT (CDC 53.1) and NORTH CAROLINA COMMUNICABLE DISEASE REPORT CARD (DHHS 2124). Forward completed forms to your local county health department with copies filed in the inmates medical record (section II).

NOTE: Only acute Hepatitis C is reportable to the Health Department as determined by meeting all the listed clinical and laboratory criteria.

IV. HEPATITIS D

A. Identification:

1. Other name: Delta virus
2. Routes of transmission:
 - a. Appears as a co-infection with hepatitis B
 - b. Transmitted the same way as hepatitis B
3. Incubation period: 2-8 weeks
4. Infectivity period: Not known

B. Diagnosis:

1. Clinical markers: Abrupt onset with signs and symptoms resembling those of hepatitis B. Consider hepatitis D possibility if patient is hepatitis B positive and worsens.
2. Laboratory testing: Anti-HDV
3. Hepatitis D virus is unable to infect in the absence of an on-going Hepatitis B infection (HBsAg+).
4. Prognosis:
 - a. Frequently leads to chronic, active hepatitis and death.
 - b. Patient can become chronic carrier
 - c. Immunity to B gives patient immunity to D

C. Procedures

1. Transfer inmate with clinical symptoms of hepatitis to an acute care inpatient facility during acute phase.
2. Standard precautions indicated.

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V. HEPATITIS E

***NOTE:** Provided for informational purposes only. Not as yet a significant problem in the United States. Outbreaks have been reported in Mexico.

Hepatitis E should be considered if clinical evaluation for the previously outlined forms of Hepatitis have been eliminated.

Hepatitis E is a virus transmitted in much the same way as the hepatitis A virus.



10/10/07

Paula Y. Smith, MD, Director of Health Services

Date

SOR: Deputy Medical Director