



# Viral Hepatitis A - E

## PATIENT EDUCATION SERIES

### What is hepatitis?

Viral hepatitis is a common disease that causes inflammation of the liver. When your medical provider talks about viral hepatitis, he/she usually means the hepatitis caused by hepatitis A, B or C, the 3 most common hepatitis viruses in the U.S. Hepatitis can also be caused by non-infectious agents such as alcohol, drugs or other chemicals toxic to the liver.

### Hepatitis B or Serum Hepatitis

**Cause:** It is caused by a small DNA virus that reproduces in the liver and causes liver dysfunction. It is transmitted by sexual contact or contact with blood.

#### Who is at risk:

- Sexually active people: hepatitis B is one of the fastest spreading sexually transmitted diseases; homosexual and bisexual men are at higher risk
- People who share needles for injecting drugs
- Health care workers or volunteers exposed to blood
- International Travelers
- People from areas of the world that have high rates of hepatitis B infection or students born in the U.S. to parents from these areas (most of China, Southeast Asia, Central Asian republics, parts of the Middle East, the Pacific Islands, Africa, Alaska, the Amazon Basin, the Pacific Islands, and some Caribbean islands)
- Regular recipients of blood products
- People who live with hepatitis B carriers
- Sexual partners of people with acute hepatitis B infection or of persons who are hepatitis B carriers;
- Inmates of long-term correctional facilities;
- Clients and staff of institutions for the developmentally disabled.

**Incubation period:** 45 to 60 days with an average of 120 days

**Age:** may occur at any age from infancy to adulthood. Infants are infected at birth by mothers who are carriers of hepatitis B.

**Transmission:** It is primarily a sexually transmitted disease. Household (not sexual) contacts of hepatitis B carriers have a 10% to 15% chance of contracting the disease, which may be spread by unnoticed contact with infected body fluids. It can also be spread by contact with infected needles.

**Diagnosis:** By blood test

**Symptoms: Some people never have symptoms.** Others have flu-like complaints such as poor appetite, low-grade fever, nausea, vomiting, diarrhea, fatigue, headache, and malaise. Dark urine, yellowing of the skin and eyes and clay-colored stools may occur.

**Severity:** Some cases are serious with progression to chronic hepatitis; in severe cases, death is a result of liver necrosis.

**Carriers:** 5% to 10% percent of those infected become chronic carriers who can spread the disease to others for an indefinite period of time. 25% of carriers are at high risk of developing cirrhosis or cancer of the liver. About 2% of people in the U.S. are carriers. This number grows yearly.

**Treatment:** No specific treatment. Physical isolation is not necessary. Alcohol and medications metabolized by the liver **must be avoided.** Use condoms and/or dental dams to prevent transmission to sexual partners. Caregivers must protect themselves from direct, ungloved contact with the blood and other body fluids of the infected person.

#### Prevention:

1. **Get Vaccinated.** College students are **required** to have Hep B vaccine in childhood. Hepatitis B vaccine is given by intramuscular injection in 3 separate doses over a 6 month period. It is available at Health Services if you have not been previously vaccinated.
2. If exposed, consult Health Services or other medical facility promptly for preventative treatment.
3. Practice safer sex. Abstinence is the most effective way to prevent sexual transmission. Use condoms and dental dams for oral, vaginal or anal sex.
4. Don't share needles. 60% to 80% of IV drug users are infected with hepatitis B.
5. Select a professional person for ear-piercing, tattoos, and acupuncture. Make sure the instruments are carefully sterilized.

6. Don't share razors, earrings or toothbrushes with anyone.
7. Practice good personal hygiene when sharing food, kitchens and bathrooms, especially if you live with an infected person.

### **Hepatitis A or Infectious Hepatitis**

**Cause:** Hepatitis A is caused by an RNA virus.

**Onset:** Usually sudden with fever

**Incubation period:** 15 to 50 days with an average of 25 to 30 days

**Age:** Common in children and young adults

**Transmission:** Spread mostly by person to person contact by the fecal-oral route but may occur in food or water contaminated by the virus.

**Diagnosis:** By blood test

**Symptoms:** Poor appetite, nausea, vomiting and diarrhea (similar to a stomach virus), fatigue, and jaundice

**Severity:** usually mild: Does not lead to chronic liver problems.

**Treatment:** No specific treatment except rest and a good diet. Alcohol and medications metabolized i.e. Tylenol (acetaminophen) by the liver **must be avoided**. Patients must practice diligent hand washing to avoid spreading the virus. Patients with hepatitis A are contagious 1 week after the onset of jaundice.

#### **Prevention:**

1. Travelers to any areas with poor sanitation or water systems should receive the hepatitis A vaccine before travel.
2. Vaccination: 2 doses of Hep A vaccine are recommended 6-12 months apart. But even 1 dose prior to travel will provide significant immunity.
3. Contacts: All sexual and household contacts should receive immune globulin (IG) if it has been less than 2 weeks since last exposure.
4. Practice good personal hygiene. Wash your hands after using the toilet, changing a diaper, cleaning the bathroom, and before preparing food or eating it.
5. Avoid food and water that might be contaminated with sewage. Do not eat undercooked shellfish or food prepared by someone who has hepatitis.
6. Avoid intimate or sexual contact with someone who has active hepatitis A.
7. When traveling to developing countries, drink bottled or boiled water (make sure ice is made with these as well); eat only peeled fruits and vegetables; avoid vegetables/fruits that can't be peeled (e.g. lettuce).
8. Sharing food, utensils, dishes or living quarters with an infected person puts you at greater risk.

9. Do not share needles. Poor hygiene of street drug packagers and users puts both groups at high risk of being infected with hepatitis A.
10. Keep kitchen and bathroom surfaces clean because hepatitis A virus may survive on objects for weeks.

### **Hepatitis C**

**Cause:** this viral strain is spread primarily through blood exposure. All blood donations are now tested for hepatitis A, B and C so it is virtually impossible to acquire the infection through transfusion.

**Symptoms:** only about 20% of infected people will develop acute symptoms, which are similar to those of hepatitis A and B e.g. loss of appetite, nausea, vomiting, diarrhea, fatigue, malaise, muscle and joint pain, dark ("coca-cola") urine, jaundice. Most people have no early illness, but develop a chronic infection which can be passed on to others. Many who were infected long ago, only begin to show symptoms or abnormalities on liver blood tests after 10, 20 or more years.

**Prevention:** at least 2% of the U.S. population has chronic infection, most of them are at risk for cirrhosis, liver cancer or liver failure. Since there is no vaccine yet, and treatment for people with infection is only moderately effective, the best prevention is avoiding possible exposure. Blood is the most infectious body fluid and shared needle use is the most common route; including drug injection, tattooing and piercing.

### **Hepatitis D**

Hepatitis D or delta agent hepatitis is able to cause hepatitis when it is present in the body along with the hepatitis B virus. Because of this, when someone has the hepatitis B vaccine, s/he is also protected against hepatitis D.

### **Hepatitis E**

Hepatitis E or enteric hepatitis resembles hepatitis A but is caused by a different virus. It is contracted from sewage-contaminated water and can be spread from person to person, especially within a household. Acute infection in pregnant women can be fatal in 20% of cases. Though no epidemics have been reported in the U.S., sporadic cases have occurred among travelers, especially to Africa, Asia and Mexico.