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# Hepatitis A: Questions and Answers

## *Information about the disease and vaccines*

### **What causes hepatitis A?**

Hepatitis A is a liver disease caused by hepatitis A virus (HAV).

### **How does HAV spread?**

HAV is spread from person to person by putting something in the mouth that has been contaminated with the stool of a person with HAV infection. This type of spread is called “fecal-oral.” This can happen in a variety of ways, such as when an infected person who prepares or handles food doesn’t wash his or her hands adequately after using the toilet and then touches other people’s food. A person can also be infected by drinking water contaminated with HAV or drinking beverages chilled with contaminated ice. Contaminated food, water, and ice can be significant sources of infection for travelers to many areas of the world. For this reason, the virus is more easily spread in areas where there are poor sanitary conditions or where good personal hygiene is not observed.

Most HAV infections in the United States result from international travel, contact with a household member or sex partner who has hepatitis A, or illegal drug use. Casual contact, as in the usual office, factory, or school setting, does not spread the virus.

### **Can HAV be spread through sex?**

Yes. Sex involves close, intimate contact (vaginal, anal, or oral sex) and increases the risk of exposure to HAV in the feces of an infected person.

### **What are the symptoms of hepatitis A?**

People with hepatitis A can feel quite sick. If symptoms are present, they usually occur suddenly and can include fever, tiredness, loss of appetite, nausea, abdominal discomfort, dark urine, and jaundice (yellowing of the skin and eyes).

### **How long does it take to show signs of illness after coming in close contact with a person who has HAV infection?**

It can take 15-50 days to develop symptoms (average 28 days). People with HAV infection might not have any signs or symptoms of the disease. Adults are more likely to have symptoms than children. About 7 out of 10 adults have symptoms, while children less than age 6 years usually have no symptoms. In some people, symptoms of hepatitis A recur in 6-9 months;

this condition is called relapsing hepatitis A.

### **How long do symptoms last?**

Symptoms usually last less than 2 months; however, a few people are ill for as long as 6 months.

### **How serious is hepatitis A?**

Hepatitis A can be quite serious. Studies show that 35 out of 100 people with hepatitis A are hospitalized, with people age 60 and older more likely to be hospitalized. Many days of work are missed due to hepatitis A, as well. Certain people, such as people with chronic hepatitis C, can get very sick and die from hepatitis A. Death from hepatitis A is fairly rare in healthy young people but more common in people age 60 years and older.

### **Can people become chronically infected with HAV?**

No. HAV only causes acute (recently acquired) infection, not chronic infection. Relapsing hepatitis A, as described above, goes away and is NOT a chronic HAV infection. (Both hepatitis B and hepatitis C viruses can cause chronic infection.)

### **How common is hepatitis A in the United States?**

In 2007, there were 2,979 acute cases of hepatitis A reported to the Centers for Disease Control and Prevention (CDC) and an estimated 25,000 new infections. The occurrence of HAV infection has been steadily decreasing over the past several years. Since the licensure of vaccines to prevent HAV infection, disease rates have fallen to the lowest level ever recorded in the United States.

### **How common is HAV infection throughout the world?**

HAV infection occurs widely throughout the world. The infection is especially common in countries in Latin America, Africa, the Middle East, Asia, the Caribbean, and the Western Pacific. This means that people can become infected with HAV in many travel destinations, even when using luxury tourist accommodations. The only destinations around the world for which CDC does not recommend hepatitis A vaccination or immune globulin for U.S. travelers before departure are Canada, Western Europe, Australia, New Zealand, and Japan.

**How does a person know if he or she is HAV infected?**

To diagnose acute hepatitis A, a blood test called “IgM class antibody to HAV” (IgM anti-HAV) is needed. There is also a blood test available that shows if a person was infected with HAV in the past (total hepatitis A antibody [anti-HAV]). Talk to your doctor or someone from your local health department if you suspect that you have been exposed to HAV or any type of hepatitis virus.

**Is there a medicine to treat hepatitis A?**

There is no medicine that will treat or “cure” hepatitis A. Supportive care includes bed rest, fluids, and fever-reducing medicines. Take fever-reducing medicine only if your physician recommends it.

**How long can a person with HAV infection spread HAV?**

The most likely time for an HAV-infected person to spread HAV to others is during the two weeks before the infected person develops symptoms. Clearly, if a person doesn’t even know that they are infected, it makes it difficult to protect others from getting the infection. The risk of spreading HAV becomes smaller over time and can still be present one week or longer after symptoms develop (e.g., yellowing of skin and eyes). Infants are more likely to be capable of spreading HAV for longer periods of time.

**If a person has had close personal contact with an HAV-infected person and hasn’t been vaccinated, what should the person do?**

If an unvaccinated person thinks that he or she might have been exposed, that person should call their healthcare professional immediately to schedule an appointment right away to determine whether a real exposure has occurred and whether immune globulin (IG) and/or hepatitis A vaccine should be administered. IG is a concentrated dose of human antibodies that includes anti-HAV. In most cases, either of these preparations can protect an exposed person from developing HAV infection. It’s important to give IG within two weeks following an exposure and hepatitis A vaccine as soon as possible after an exposure (the closer to the exposure the better). (See the questions below for more information about IG and hepatitis A vaccine and in which situations vaccine and/or IG is the best choice).

**Can a person get infected with HAV more than once?**

No. Once you recover from the infection, you develop antibodies called anti-HAV that provide life-long

protection from future infections. After recovering from hepatitis A, you won’t get it again and you cannot transmit HAV to others.

**How does HAV differ from hepatitis B virus (HBV) and hepatitis C virus (HCV)?**

- HAV, HBV, and HCV are three different viruses that attack and injure the liver and cause similar symptoms in people with acute (recently acquired) disease.
- HAV is spread by getting HAV-infected fecal matter into a person’s mouth who has never had hepatitis A (e.g., an HAV-infected person who doesn’t wash his or her hands after using the bathroom and then handles food for public consumption or an infected person who has sex with a person who has never had hepatitis A). HBV and HCV are spread when an infected person’s blood or blood-contaminated body fluids enter another person’s bloodstream.
- HBV and HCV infections can cause lifelong (chronic) liver problems. HAV does not.
- There are vaccines that will protect people from HAV infection and HBV infection. Currently, there is no vaccine to protect people from HCV infection.
- There are medications that are approved by the Food and Drug Administration (FDA) for treatment of chronic HBV and HCV infections.
- If a person has had one type of viral hepatitis in the past, it is still possible to get the other types.

**When did the first hepatitis A vaccine become available?**

There are currently two hepatitis A vaccine products approved by the FDA in the United States. The first hepatitis A vaccine became available in 1995 (HAVRIX®, GlaxoSmithKline), followed by the second hepatitis A vaccine in 1996 (VAQTA®, Merck). They are equally safe and effective.

**What kind of vaccine is hepatitis A vaccine?**

Hepatitis A vaccine is an inactivated virus vaccine. No part of the vaccine is “live.”

**How is hepatitis A vaccine given?**

The vaccine is given by an injection into the muscle of the upper arm for adults and older children and in the thigh muscle of toddlers.

**Who should get this vaccine?**

Many people are recommended to receive hepatitis

A vaccine, including people at increased risk for exposure to HAV infection and people who are more likely to get seriously ill if infected with HAV. According to CDC recommendations, people who should be vaccinated include:

- All children at age 1 year (12-23 months)
- People age 12 months or older who are traveling to or working in an area of the world except the United States, Canada, Western Europe, Japan, New Zealand, and Australia
- Men who have sex with men
- Users of illicit drugs, injectable or noninjectable
- People who anticipate having close personal contact with an international adoptee from a country of high or intermediate endemicity during the first 60 days following the adoptee's arrival in the United States
- People who have blood clotting disorders
- People who work with HAV-infected primates or with HAV in a research laboratory setting (no other groups have been shown to be at increased risk for HAV infection because of occupational exposure)
- People with chronic liver disease
- Any person who wishes to be immune to HAV infection

Hepatitis A vaccine is not routinely recommended for healthcare workers, sewage workers, or daycare providers. Children who are not vaccinated by age two years should be vaccinated as soon as feasible.

#### **How many doses of hepatitis A vaccine are recommended for full protection?**

Two doses are recommended. The second dose is given no sooner than six months after the first dose.

#### **I'm not in a group for which hepatitis A vaccine is recommended. Can I still get vaccinated to protect myself against HAV infection?**

Yes. Hepatitis A vaccine is safe and effective and is licensed for use in any person age 12 months and older. Any person who wishes to be immune to hepatitis A is recommended to receive the vaccine.

#### **How long does hepatitis A vaccine protect you?**

Estimates for long-term protection for fully vaccinated people (i.e., full two-dose series) suggest that protection from HAV infection could last for at least 25 years in adults and at least 14-20 years in children. Experts continue to study the long-term effectiveness of this vaccine to determine whether a booster dose will be needed.

#### **What organizations recommend hepatitis A vaccine?**

The Centers for Disease Control and Prevention, the American Academy of Pediatrics, the American Academy of Family Physicians, the American College of Obstetricians and Gynecologists, and the American College of Physicians recommend the vaccine.

#### **Is hepatitis A vaccine safe?**

Yes, hepatitis A vaccine is very safe. No serious adverse events have been attributed definitively to hepatitis A vaccine. Since the licensure of the first hepatitis A vaccine in 1995, millions of doses of hepatitis A vaccine have been distributed and administered worldwide as well as in the United States.

#### **What side effects have been reported with this vaccine?**

The most common side effect is a sore arm, which happens to one out of two adults and one out of five children. Less common side effects include headache, loss of appetite, low-grade fever, or tiredness. When these problems happen, they usually start 3–5 days after vaccination and usually last for one or two days. A very rare but serious side effect is a generalized allergic reaction. If this happens, it typically occurs within a few minutes to a few hours following the injection.

#### **How effective is hepatitis A vaccine?**

Hepatitis A vaccine is very effective. It appears that all adults, adolescents, and children become immune to HAV infection after getting two doses. After one dose, at least 94 out of 100 people become immune for the short term.

#### **Who should not receive hepatitis A vaccine?**

People who have had a serious allergic reaction to hepatitis A vaccine in the past, or who are known to be allergic to any part of the hepatitis A vaccine, should not receive it. People with moderate or severe acute illness should wait to receive hepatitis A vaccine until their condition has improved.

#### **Can I receive hepatitis A vaccine when I am pregnant?**

The answer to this question is not well studied, but because hepatitis A vaccine is produced from inactivated HAV, the theoretical risk to the developing fetus is expected to be low. The risk associated with vaccination, however, should be weighed against the risk for hepatitis A in women who may be at high risk for exposure to HAV.

**Can the vaccine cause HAV infection?**

No.

**Is there a vaccine that protects against both HAV and HBV infections?**

Yes. Twinrix<sup>®</sup>, the hepatitis A and hepatitis B combination vaccine manufactured by GlaxoSmithKline, was licensed for use in the United States in 2001 for people 18 years of age and older. Three doses of Twinrix are necessary for full protection against hepatitis A and hepatitis B virus infections.

In April 2007, approval was received for an alternate 4-dose schedule for Twinrix. Using this schedule, 3 doses of Twinrix can be administered at 0, 7, and 21-30 days, followed by the 4th dose at 12 months. This schedule might benefit people needing rapid protection from both hepatitis A and hepatitis B virus infections. This includes people traveling to areas with high rates of hepatitis A and hepatitis B and emergency responders, especially those being deployed to disaster areas overseas. Again, this is available only for people 18 years of age and older.

**What is immune globulin (IG)?**

IG is a preparation of antibodies that can be given before exposure to HAV for short-term protection against HAV infection and to people who have already been exposed to HAV. IG must be given within 2 weeks after exposure to HAV for maximum protection.

**Are there new recommendations for the use of IG and/or hepatitis A vaccine prior to travel?**

Yes. All susceptible people traveling to or working in countries except the United States, Canada, Western Europe, Japan, New Zealand and Australia should receive hepatitis A vaccine or IG before departure. (If traveling to the Caribbean, people should consider getting hepatitis A vaccine or IG if travel is to areas of questionable sanitation.)

For unvaccinated people ages 1 through 40 years, the first dose of hepatitis A vaccine should be administered as soon as travel is considered, actually

anytime prior to travel. The second dose should be given at least 6 months after the first dose.

For the best protection, individuals who are over age 40, immunocompromised people (e.g., people with AIDS), and people with chronic liver disease or other chronic medical conditions planning to travel in 2 weeks or less should receive the initial dose of hepatitis A vaccine and IG at the same time. The second dose of the 2-dose hepatitis A vaccine series should be given no sooner than six months after the first dose. This second dose is needed to ensure long lasting protection.

Travelers who choose not to get the hepatitis A vaccine, who are less than 12 months old, or who are allergic to the vaccine should be given IG only. The dosage of IG depends on how long you plan to be traveling and how much you weigh.

**What should be done for travelers who are younger than age 12 months to protect them from HAV infection?**

Recommendations have not changed for this age group as noted in the previous question. IG is recommended for travelers younger than age 12 months because hepatitis A vaccine is not licensed for use in this age group.

**Can hepatitis A vaccine be given after exposure to HAV?**

Yes. The recommendations for the use of hepatitis A vaccine after exposure to HAV have changed. People who recently have been exposed to HAV and who previously have not had hepatitis A vaccine should be given a single dose of hepatitis A vaccine or IG as soon as possible. Hepatitis A vaccine is preferred for healthy people age 12 months through 40 years of age. For people over 40 years of age, IG is preferred, but hepatitis A vaccine can be used if IG is unavailable. IG should be given to children younger than 12 months of age, immunocompromised people, people who have diagnosed chronic liver disease, and people for whom vaccine is contraindicated.