



Hepatitis A Virus

August 2018

Fire fighters, EMS providers, and other first responders represent a critical component of the community's infrastructure. In the wake of a disaster, affected communities can take weeks to months to recover. A healthy, functioning public safety network is an absolute necessity to support the community. Responders becoming ill with Hepatitis A will be out of the work force for possibly weeks, which will impact the staffing levels.

What is Hepatitis A?

Hepatitis A (HAV) is a highly contagious liver infection caused by the hepatitis A virus. The virus is one of several types of hepatitis viruses that cause inflammation and affect your liver's ability to function. There is no specific treatment for HAV.

What are the symptoms?

The time between infection and symptoms, in those who develop them, is between two and six weeks. When symptoms occur, they typically last eight weeks and may include nausea, vomiting, diarrhea, loss of appetite, jaundice, fever, and abdominal pain. Recovery from symptoms following infection may take several weeks or months. Most patients recover on their own, but there may be a recovery period that is lost time from work. Some of those that are infected may have relapsing symptoms over a six to nine-month period. HAV does not usually cause long term health problems such as chronic infection or chronic liver disease.

How am I exposed to Hepatitis A?

Hepatitis A is transmitted person-to-person via the fecal-oral route (through contact with small amounts of an infected person's stool, usually due to inadequate hand-washing). You can get HAV by:

- Eating contaminated food (prepared by someone who is infected with HAV that did not wash their hands after using the bathroom)
- Drinking unclean water or washing food in untreated water
- By coming into contact with items and surfaces contaminated with HAV
- Through openings in the skin such as cuts or abrasions. These opening can be visible or so small that they aren't visible to the naked eye.
- Through close personal contact (such as living in a home with someone who has this disease) or sexual contact, especially among men who have sex with men
- Bloodborne transmission of hepatitis A is rare
- Salive transmission has not been demonstrated

How do you Prevent HAV?

Hepatitis A is a vaccine preventable disease. The HAV vaccine has been available since 1995 and is recommended for high-risk line jobs such as firefighting and EMS. The HAV vaccine can prevent disease two ways, either given before exposure or within 2 weeks after known exposure. Hepatitis A vaccine is given with 2 injections, six months apart. A combined Hepatitis A and Hepatitis B vaccine is also available and requires a series of three injections, given with 0, 1, and 6 month intervals.

Anyone exposed to hepatitis A that has not previously vaccinated can receive a shot of immune globulin (IG) to prevent infection. Post exposure IG provides less than two months protection. For adults younger than 40, post-exposure HAV vaccination is generally a better option because it can provide long term protection in those not previously vaccinated. After age 40, the CDC recommends immune globulin therapy for HAV.

You can help prevent the spread of HAV by:

- Getting vaccinated
- Using Universal Precautions
 - Hand hygiene (wash with soap and water or using an alcohol based hand rub)
 - Personal protective equipment (PPE) (gloves, gowns, masks and goggles that offer mouth, nose and eye protection)
 - Proper handling and disposal of instruments/devices and clothing contaminated with blood or body fluids
- Make sure all your children are vaccinated for HAV (age 12 months and older)

What are the recommendations for vaccination?

National Fire Protection Association (NFPA):

NFPA 1582, *Comprehensive Occupational Medical Program for Fire Departments*, section 7.7.9(7) requires the Hepatitis A vaccination.

NFPA 1581, *Fire Department Infection Control Program*, section 4.5.2.1(8) states that the Hepatitis A vaccine is offered to high-risk personnel (HazMat, urban search and rescue (USAR), SCUBA, and other personnel with frequent **or expected exposures to contaminated water**.

The Occupational Safety and Health Administration (OSHA) advises that floodwater often contains infectious organisms, including HAV and tetanus (OSHA, 2003).

CDC guidelines regarding HAV vaccines directs anyone who has recently been exposed to HAV should receive a dose of the single-antigen Hepatitis A vaccine within two weeks of their exposure or immune globulin (IG) dosed at 0.02 mL/kg (CDC, July 2016).

Additionally:

For healthy persons aged 12 months to 40 years, single-antigen Hepatitis A vaccine at the age-appropriate dose is preferred to IG because of the vaccine's advantages, including long-term protection and ease of administration, as well as the equivalent efficacy of vaccine to IG.

- **Vaccine can be used if IG cannot be obtained.**

Furthermore, CDC recommends that children should be vaccinated at age 1 (12-23 months), also advising that protective levels of the antibody to HAV could only be present for at least 14 to 20 years (CDC, 2016). Given this, unless a person received the vaccine in their teens it is likely that they will no longer have an immunity to protect them from infection. This supports the need for fire fighters, EMS workers, and other first responders to receive the HAV vaccine.

Some other things for you to consider:

- Greater than 70% of all adults that become infected with Hepatitis A Virus (HAV) will be symptomatic with Jaundice (CDC, 2016).
- Signs and Symptoms of HAV usually last less than 2 months, but 10-15% of symptomatic persons have prolonged or relapsing disease for up to 6 months (CDC, 2016).
- HAV Vaccine can be administered at the same time as the tetanus shot, but in different injection sites (CDC, 2016).
- A second injection of HAV vaccine should be received 6 months from the first dose to complete the series (CDC, 2016).
- For the second dose, although studies have not been done to examine this issue, there is no reason to believe that using single-antigen vaccine from different manufacturers would be a problem (CDC, 2016).
- Post-vaccination testing is not indicated because of the high rate of vaccine response among adults and children. In addition, not all testing methods approved for routine diagnostic use in the United States have the sensitivity to detect low, but protective, anti-HAV concentrations after vaccination (CDC, 2016).

What should you do if you are exposed to the disease?

You should see a doctor or health care professional immediately if you think you may have been exposed to Hepatitis A Virus. The healthcare provider may offer you Hepatitis A vaccine or immune globulin therapy.

Resources:

Centers for Disease Control [CDC]. (2016, July 13). Hepatitis A Questions and Answers for Health Professionals. Retrieved from: <https://www.cdc.gov/hepatitis/hav/havfaq.htm>

Occupational Safety and Health Administration [OSHA]. (2003). OSHA Fact Sheet: Flood Cleanup. Retrieved from: https://www.osha.gov/OshDoc/data_Hurricane_Facts/Bulletin2.pdf

National Fire Protection Association, NFPA 1581, *Fire Department Infection Control Program* 2015 edition
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1581>

National Fire Protection Association, NFPA 1582 *Comprehensive Occupational Medical Program for Fire Departments*, 2018 edition
<https://www.nfpa.org/codes-and-standards/all-codes-and-standards/list-of-codes-and-standards/detail?code=1582>