What is hepatitis A?

Hepatitis A is a liver disease that develops after infection with the hepatitis A virus. “Hepatitis” means inflammation of the liver which is the result of infection or injury. In some people, HAV infection will result in a mild illness lasting only a week or two, while in others it may be much more severe and last for several months. However, unlike other hepatitis viruses, hepatitis A does not ever become a long-term “chronic” infection although it can relapse after initial improvement.

How does someone become infected with hepatitis A?

Infection with hepatitis A most commonly occurs when the virus is taken in by mouth from contact with objects, food, or drinks that have been contaminated by the feces (stool) of an infected person.

**Transmission through food and water** can occur in areas where water supplies have become contaminated with fecal material through sewage overflows or inadequate or broken sewage systems, or where water is inadequately chlorinated. Hepatitis A infection can then be transmitted through drinking the water or eating uncooked food (such as raw shellfish) and unpeeled fruits and vegetables that were washed in the contaminated water. Boiling or cooking food or liquids for at least 1 minute at 185°F (85°C) will kill the virus, although freezing food or liquids will not. Foods can become contaminated where they are grown, harvested, processed, or handled if at any point fecal material from an infected person is transferred to them. For example, infected field hands might not properly wash their hands after going to the bathroom, and then handle the vegetables or fruits that are being harvested. Infected restaurant workers might fail to properly wash their hands after going to the bathroom and then handle food that has already been cooked or foods that won’t be cooked like salads and fresh fruit. If even a tiny amount of fecal material is transferred from the worker’s hands to the food, the person who eats the food could become infected. When eaten raw, shellfish cultivated in polluted water is also a possible source of infection. Transmission through food and water occurs more often in countries where there are inadequate water supplies and poor sanitation and hygiene. The food and drinks which are the most likely to be contaminated are vegetables, fruits, shellfish, ice, and water.

**Transmission in day care facilities** can occur because young children, especially those wearing diapers, may get fecal material on their hands and then transfer that to various items that other children put into their mouths. Children’s caregivers may spread the virus if they fail to thoroughly wash their hands after changing an infected child’s diaper.

**Sexual transmission** can occur when someone engages in certain sexual activities, such as oral-anal contact with an infected person.
How common is hepatitis A in the United States?

In the United States, the chlorine added to water supplies kills hepatitis A virus, making transmission through food and water much less likely than in developing countries with unsafe water supplies. In addition, hepatitis A vaccine was introduced in the U.S. in 1995 and it is now routine to vaccinate all children, people who plan to travel to countries where hepatitis A infection is common, and persons at increased risk for the disease. As a result of widespread vaccination and the overall safety of the food and water supply, the CDC reports that rates of Hepatitis A in the U.S. are the lowest they have been in 40 years, with only an estimated 25,000 new hepatitis A virus infections in 2007.

Who is at increased risk for becoming infected?

The groups of people in the U.S. who are thought to be at higher risk for hepatitis A infection are:
- travelers to countries where hepatitis A is common
- people who have oral-anal sexual contact with someone who has hepatitis A
- users of illegal drugs, whether injected or not
- people with clotting-factor disorders, such as hemophilia
- people who live with someone who has hepatitis A

How can you know if you are infected?

A doctor can diagnose infection by taking a blood sample.

How is hepatitis A treated?

Because there are no specific treatments for hepatitis A infection, the general recommendation is for plenty of rest, adequate nutrition, and lots of fluids. Physicians will also advise people who are infected to avoid alcohol and to check with them before taking prescription drugs, supplements, or over-the-counter medications, since some of these can damage the liver.

What are the symptoms of hepatitis A infection?

Many people who become infected with hepatitis A do not have any symptoms. If symptoms do occur, they will commonly develop over a period of several days from 2 to 6 weeks after exposure and will generally last for less than two months; in rare cases, people can be ill for up to six months and a few patients have relapsing illnesses. Symptoms may include:

- Fever
- Fatigue
- Appetite loss
- Nausea and vomiting
- Dark urine
- Clay-colored bowel movements
- Abdominal pain
• Joint pain
• Rash
• Jaundice (a yellowing of the skin or eyes)

Whether or not people develop symptoms, almost everyone who is infected with hepatitis A will recover completely. Although the initial infection causes inflammation in the liver there is almost never permanent liver damage. In rare cases, most often in people who are 50 years or older or who have other sources of liver damage (such as chronic infection with hepatitis B or C), hepatitis A can cause liver failure and death.

How can hepatitis A infection be prevented?

The best way to prevent becoming infected with hepatitis A is to be vaccinated. If you were exposed to hepatitis A within the last two weeks and you have never been vaccinated against it, you might benefit from an injection of either immune globulin or the hepatitis A vaccine; neither of these will be effective if it has been more than two weeks since you were exposed. A health professional can decide what is best on the basis of your age and overall health. Vaccination immunity is mostly likely life long and boosters are not needed.

How does the hepatitis A vaccine work and how is it given?

The hepatitis A vaccine contains inactive virus that when injected will stimulate the body's immune system to produce antibodies that will protect you against future infection with the virus. Antibodies are protective proteins that are produced by the immune system in response to the presence of a foreign substance called an antigen. Antibodies recognize and latch onto antigens, including viruses and bacteria, in order to remove them from the body. The hepatitis A vaccine stimulates the production of the same type of antibodies that the body would produce if infected by hepatitis A. Whether they are the result of infection or of the vaccine, these antibodies will remain in the body long-term and will prevent infection if a person is exposed to hepatitis A in the future.

The hepatitis A vaccine is given as 2 shots, 6 months apart. There is also a combination vaccine that contains both hepatitis A and B vaccine that can be given to people who are 18 years of age or older; this combination vaccine is given as 3 shots, over a period of 6 months.

Is the hepatitis A vaccine safe and effective?

Yes, the hepatitis A vaccine is highly effective in preventing infection, with protection beginning about 2 to 4 weeks after the first injection; the second injection results in long-term protection. There are generally no serious side effects from the vaccine. The most common side effect is just soreness at the injection site. As with any medicine, in rare cases serious problems could result from the vaccine. People who have ever had a serious allergic reaction to the hepatitis A vaccine or who are known to be allergic to any part of the hepatitis A vaccine should not be given it.

Who should be vaccinated against Hepatitis A?
The United States Centers for Disease Control recommends hepatitis A vaccination for:
• All children at age 1 year
• Travelers to countries that have high rates of hepatitis A
• Men who have sexual contact with other men
• Users of injection and non-injection illegal drugs
• People with chronic liver diseases, such as hepatitis B or hepatitis C
• People who are treated with clotting-factor concentrates
• People who work with hepatitis A-infected animals or in a hepatitis A research laboratory

Robert Gish, MD formed the medical consulting firm Robert G. Gish Consultants LLC in 2013 to assist liver and liver transplant programs with their operational, outreach, compliance, financial planning and program development.

His firm also provides consultations with Pharma and a means of interaction between the pharmaceutical industry and CME organizations in addition to promoting liver health policies throughout the world. Robert G. Gish, MD, is co-director of the Center for Hepatobiliary Disease and Abdominal Transplantation (CHAT) at the University of California, San Diego, — a multidisciplinary program designed to offer adult and pediatric patients in the western United States a single destination for the diagnosis and treatment of liver disease from common to complex. Dr. Gish represents the American Association for the Study of Liver Disease on the NVHR Steering Committee.