

Who should get hepatitis A vaccination?

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EVIDENCE-BASED ANSWER

The following groups are at increased risk of contracting or having severe outcomes from hepatitis A and should receive vaccination.

- Persons traveling to or working in countries that have high or intermediate rates of infection. Specific country recommendations are available at www.cdc.gov/travel/destinat.htm (strength of recommendation [SOR]: **B**)
- Men who have sex with men (SOR: **B**)
- Illegal-drug users (whether drug is injected or not) (SOR: **B**)
- Persons who have occupational risk for infection (eg, research settings working with nonhuman primates) (SOR: **C**)
- Persons with clotting-factor disorders (SOR: **C**)

- Persons with chronic liver disease (SOR: **B**)
- Children (age 2 to 18) living in states, counties, and communities where rates of hepatitis A are at least twice the national average. These states include: Alaska, Arizona, California, Idaho, Nevada, New Mexico, Oklahoma, Oregon, South Dakota, Utah, and Washington. The rates of hepatitis A for individual counties can be found at the Centers for Disease Control and Prevention (CDC) web site (www.cdc.gov/ncidod/diseases/hepatitis/a/vax/index.htm). Consider giving hepatitis A vaccine to children (age 2 to 18) in areas with rates greater than the national average but less than twice the national average. These states include Arkansas, Colorado, Missouri, Montana, Texas, and Wyoming (SOR: **B**).

CLINICAL COMMENTARY

Anyone who does not want to get hepatitis A should receive the vaccine

A good information master needs to know his resources. The question posed in this clinical inquiry is a good example. Questions about who should receive which vaccine are determined by the Advisory Committee on Immunization Practices, and their recommendations are available on the CDC's web site (www.cdc.gov/nip/publications/acip-list.htm).

With that said, anyone who does not want to get hepatitis A should receive the vaccine. Hepatitis A is the most common vaccine preventable disease, which on occasion can be severe, especially in adults. The vaccine has no serious side effects, is highly effective and, if widely adopted, would dramatically decrease the incidence of hepatitis A in the population.

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■ Evidence summary

Infection with hepatitis A virus (HAV) is a reportable illness in all 50 states, and it continues to be one of the most reported vaccine-preventable illnesses. The persistence of extensive community-wide outbreaks indicates that hepatitis A remains a major public health problem.

The costs associated with HAV are substantial: 11% to 22% of individuals with HAV are hospitalized, and adults who become ill lose an average of 27 days

of work. The average cost of hepatitis A ranges from \$1817 to \$2459 per case for adults and \$433 to \$1492 for children. In 1989, the estimated annual direct and indirect costs of HAV in the United States were more than \$300 million (in 1997 dollars).¹

Hepatitis A can produce either asymptomatic or symptomatic infection in humans after an average incubation period of 28 days. The illness is usually marked by a sudden onset of symptoms including fever, malaise, nausea, anorexia, abdominal

discomfort, jaundice, and dark urine. The illness usually lasts less than 2 months. Though not usually life threatening, an estimated 100 deaths annually are attributed to acute liver failure due to hepatitis A. Patients with chronic liver disease may be at higher risk of developing fulminant hepatitis A.^{2,3} The likelihood of symptomatic disease is directly related to age, with 70% of adults developing jaundice and most infections in children aged <6 years having no symptoms.

HAV is transmitted primarily from fecal-oral route by either person-to-person contact or ingestion of fecally contaminated food or water. Although rare, it is possible for transmission by blood or blood products collected from donors during the viremic phase of their infection. Although HAV has been detected in saliva, transmission by saliva has not been demonstrated. Under the right conditions HAV can be stable in the environment for months. Heating foods to >185° F for 1 minute or disinfecting surfaces with 1:100 dilution of bleach in tap water is necessary to inactivate HAV.¹

Vaccination against HAV is recommended for those at high risk for contracting the illness or for any person wishing to obtain immunity. Prospective studies indicate that persons traveling in areas with high rates of HAV are themselves at 44 times increased risk.⁴ Among men who have sex with men, numerous cohort studies reveal increased rates of infection due to anal-oral sexual practices and higher number of sexual partners.⁵⁻⁷ Intravenous drug users and non-IV illicit drug users are both at increased risk of HAV infection.⁸⁻¹⁰ In the United States, children living in states with increased HAV incidence rates are also considered to be at high risk.¹ Less strong evidence exists for vaccinating those with occupational hazards (for example, working in a research setting with nonhuman primates) or persons with clotting factor disorders.^{11,12}

A corollary question is who does not routinely need hepatitis A vaccine. In general, food service workers, sewerage workers, healthcare workers, children aged <2 years, day-care attendees, and residents of

institutions for the developmentally disabled do not need routine immunization

The currently licensed inactivated hepatitis A vaccines are highly immunogenic and clinically effective in children 2 to 18 years and in adults. In a double-blind, controlled, randomized study of 1000 children in New York revealed clinical efficacy of 100%.¹³ A second study of 40,000 children in Thailand had a clinical efficacy of 94%.¹³ Numerous other studies have supported findings of near 100% immunogenicity in all age groups and clinical efficacy in all age groups.¹

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FAST TRACK

Hepatitis A vaccine is highly effective, and, if widely adopted, would dramatically decrease the incidence of the disease