



Hepatitis A Postexposure Prophylaxis Guidance

Postexposure prophylaxis (PEP)

Susceptible people exposed to hepatitis A virus (HAV) should receive a dose of single-antigen HAV vaccine or intramuscular (IM) immune globulin (IG) (0.02 mL/kg) or both as soon as possible within 2 weeks of last exposure. The efficacy of combined HAV/HBV vaccine for PEP has not been evaluated so it is not recommended for PEP.

HAV vaccine is preferred over IG for PEP in persons 1-40 years of age because the effectiveness of vaccine for PEP has been studied only in this age group and data on vaccine efficacy at older ages are limited. However, other countries recommend vaccine for PEP in people >40 years of age and there is evidence that HAV vaccine is immunogenic in older people. Therefore, CDPH suggests consideration of HAV vaccine for PEP in persons 41-59 years of age because it confers long-term immunity.

Age/years	<1*	1-40	41-59	60-74*	75+
Healthy	IG	Vaccine preferred	Vaccine and/or IG	IG; vaccine if IG is in short supply	IG
Other†	IG	IG	IG	IG	IG
	Consider vaccine + IG for possible longer-term protection				

*When IG is unavailable or in short supply, single-antigen HAV vaccine may be used for PEP in healthy people 60-74 years of age and in infants >6 months of age.

†People who should receive IG for PEP

CDC recommends that the following people, regardless of age, receive IG PEP because they are at increased risk of severe HAV infection or may have a decreased immune response to vaccine. Vaccine may be given in addition to IG to potentially provide longer-term protection, but vaccine response may be limited. Clinical guidance should be obtained if patient's immune status is unclear.

- Persons with chronic liver disease (e.g., cirrhosis)
- Immunocompromised persons, including persons:
 - With HIV/AIDS;
 - Undergoing hemodialysis;
 - Who have received solid organ, bone marrow or stem cell transplants;
 - Receiving high dose steroids (>2mg/kg/day);

- Receiving chemotherapy, immunomodulators and/or biologic medications,‡ and
- Persons who are otherwise less capable of developing a normal response to immunization.

‡mercaptopurine, methotrexate, infliximab, adalimumab, etanercept, tacrolimus, mycophenolate, etc.

Persons administered IG for whom HAV vaccine is also recommended for other reasons should receive a dose of vaccine simultaneously with IG.

IM IG (GamaSTAN®) is available in 2 mL and 10 mL single use vials. One source of IG is FFF Enterprises, which can be reached 24/7 at: 1-800-843-7477.

For additional CDC information on HAV PEP, see: <http://www.cdc.gov/hepatitis/HAV/HAVfaq.htm#D1> www.cdc.gov/mmwr/preview/mmwrhtml/mm5641a3.htm

Definition of HAV immunity

Persons are considered immune if they:

- have received two doses of HAV vaccine; or
- have a history of IgM or total anti-HAV positivity during or up to four months after consistent clinical illness; or
- are IgG anti-HAV positive.

Post-vaccination testing is not indicated because of high vaccine immunogenicity. Most adults will be protected within two to four weeks after one dose of vaccine. HAV vaccine has been routinely recommended for California children since 1999, and most pre-adolescent children in California are immune to HAV.

Persons exposed to HAV >2 weeks prior to consult

The efficacy of PEP when given >2 weeks of exposure is unknown. IG is not recommended >2 weeks after exposure, but vaccine may be given at any time to susceptible people to protect against future exposures.

People exposed to HAV should **NOT** be tested for HAV infection unless they are symptomatic. False positive HAV IgM test results are common when asymptomatic people are tested. HAV IgG test results are often not available promptly enough to guide decisions on PEP. PEP should not be delayed for HAV immunity testing.

Incompletely immunized people

Most persons have protective levels of antibody after one dose of HAV vaccine. Persons who have had one prior dose of vaccine should receive their second dose if it has been at least 6 months since their first dose.

Pediatric vs. adult formulations of HAV vaccine

Single-antigen HAV vaccines are available in a pediatric formulation containing half the dose and volume of the adult formulation. When adult formulation is unavailable, adults may be given two doses of the same pediatric HAV vaccine (2 pediatric doses = 1 adult dose).

HAV vaccine contraindications and precautions

- HAV vaccine should not be administered to persons with a history of a severe allergic reaction to a previous dose of HAV vaccine or a vaccine component.
- Pregnant women may be given HAV PEP. Although the safety of HAV vaccination during pregnancy has not been determined, because HAV vaccine is produced from inactivated HAV, the theoretical risk to the fetus is expected to be low.
- Because HAV vaccine is inactivated, no special precautions need to be taken when vaccinating immunocompromised persons.

Administration of HAV vaccine with other vaccines

HAV vaccine may be administered simultaneously with Td, Tdap, DTaP, poliovirus (oral and inactivated), Hib, hepatitis B, MMR, cholera, Japanese encephalitis, rabies, or yellow fever vaccines.

Clinical symptoms

HAV is an acute, self-limiting viral illness associated with abrupt onset of fever, malaise, jaundice, anorexia, nausea, abdominal discomfort, and dark urine.

Development of clinical symptoms is highly age dependent; among older children and adults, infection is typically symptomatic with 70% presenting with jaundice. In children less than six years of age, 70% of infections are asymptomatic.

Modes of transmission

HAV is primarily transmitted via the fecal-oral route (e.g., consuming fecally contaminated foods/liquids). HAV is present in blood/feces 10-12 days after infection. HAV is rarely transmitted by blood (e.g., via transfusion) or saliva.

Incubation period

A range of 15-50 days with a mean of 28 days.

Period of communicability

Most immunocompetent adults shed virus in the stool and are infectious from two weeks before through one week after the onset of jaundice. Infected persons may no longer excrete virus in the feces by the third week of illness. Children, especially newborns, may excrete virus longer than adults.

Clinical case definition

An acute illness with:

- a) discrete onset of symptoms; **and either**
- b) jaundice or elevated serum aminotransferase (ALT or AST) levels.

Laboratory criteria for diagnosis

Immunoglobulin M (IgM) antibody to HAV (anti-HAV) positive.

Confirmed case definition

A case who meets the clinical case definition; **and**

- is laboratory confirmed; **or**
- has an epidemiologic link with a person who has laboratory-confirmed HAV (i.e., household or sexual contact with an infected person during the 15-50 days before the onset of symptoms).

Laboratory testing

IgM anti-HAV is present at the onset of illness. It usually disappears <4 months, but may persist 6 months or longer. IgM anti-HAV is also occasionally detectable in adults two weeks after receiving HAV vaccine. IgG anti-HAV is detectable shortly after the appearance of IgM and remains for the person's lifetime.

False positive IgM anti-HAV test results

A positive IgM anti-HAV test result in a person without typical symptoms of HAV may indicate:

- asymptomatic acute HAV infection; or
- previous HAV infection with persistent IgM; or
- a false-positive test result.

IgM anti-HAV testing should be limited to persons with evidence of clinical hepatitis and should not be used as a screening tool or as part of testing panels in the workup of nonacute liver function abnormalities because of the risk of false positive test results in such persons.

If a report of positive IgM anti-HAV is received on a patient who does not exhibit HAV symptoms or have a history of recent contact with an HAV infected person, repeat IgM anti-HAV testing and a review of ALT or AST levels (often >500 units/L in acute hepatitis) be considered before recommendations are made for PEP.