California Department of Public Health – July 2017

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; and/or
- **0.1 mL/kg***intramuscular (IM) immune globulin (IG)

PEP should be given as soon as possible <2 weeks of last exposure. The efficacy of combined HAV/HBV vaccine for PEP has not been studied so it is not recommended.

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.

Local health departments may also wish to evaluate the likelihood and intensity of HAV exposure (e.g., possible commercial food exposure vs. known household or sexual contact) when making decisions about PEP regimens.

*In July 2017, the recommended dose for IMIG (GamaSTAN® S/D) for HAV pre- and post-exposure prophylaxis was increased by the manufacturer due to declining HAV antibody levels in the U.S. blood supply.

Age/years	<1†	1-40	41-59	60-74†	75+
Healthy	IG only	Vaccine preferred	Vaccine	IG + vaccine	IG + vaccine
Other‡	IG	IG	IG	IG	IG

†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.

For additional guidance on administration of IG, see: https://www.cdph.ca.gov/Programs/CID/DCDC/CDPH%20Document%20Library/Immunization/HepatitisA-IGPEPGuidance.pdf

‡People who should receive IG for HAV PEP
Per CDC, the following persons should receive IG:

- Children aged <12 months;
- Immunocompromised persons§
- Persons with chronic liver disease; and
- Persons for whom vaccine is contraindicated‖.

To provide long-term protection against HAV, persons administered IG for whom HAV vaccine is also recommended for other reasons should receive a dose of vaccine simultaneously with IG or may receive vaccine first and IG as soon as it can be accessed.

IM IG (GamaSTAN® S/D) 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.

§Although the CDC HAV guidance does not provide a definition of immunocompromised, IDSA guidance (http://tinyurl.com/y8n8qpv6) defines patients with high-level immunosuppression as those:

- with combined primary immunodeficiency disorder (e.g., severe combined immunodeficiency);
- who are receiving cancer chemotherapy;
- on treatment for ALL within and until at least 6 months after completion of immunosuppressive chemotherapy;
- within 2 months after solid organ transplantation;
- who have received a bone marrow transplant until at least 12 months after finishing all immunosuppressive treatment, or longer in patients who have developed graft-versus-host disease;
- with HIV infection with a CD4 T-lymphocyte count <200 cells/mm3 (age >5 years) and percentage <15 (all ages) (some experts include HIV-infected persons who lack recent confirmation of immunologic status or measles immunity);
- receiving daily corticosteroid therapy with a dose ≥20 mg (or >2 mg/kg/day for patients who weigh <10 kg) of prednisone or equivalent for ≥14 days; or
- receiving certain biologic immune modulators, such as a tumor necrosis factor-alpha (TNF-α) blocker or rituximab.

Vaccine may be given in addition to IG to potentially provide longer-term protection for immunosuppressed persons but vaccine response may be limited. Clinical guidance should be obtained if patient's immune status is unclear.

Exposed susceptible pregnant women
Pregnant women who become infected with hepatitis A have an increased risk of gestational complications and preterm labor. Although there are no specific CDC recommendations for PEP for susceptible exposed pregnant women, it may be reasonable to offer IG in addition to vaccine for PEP, particularly if the woman is a household or sexual contact of a case.

Immunization Branch/Division of Communicable Disease Control
850 Marina Bay Parkway, Building P, 2nd Floor, Richmond, CA 94804
(510) 620-3737 Internet Address: www.cdph.ca.gov

Definition of HAV immunity
Persons are considered immune to HAV if they have:

- received two doses of HAV vaccine; or
- a history of IgM or total anti-HAV positivity during or <4 months after clinically consistent illness; or
- are IgG anti-HAV positive.

Pre- or post-vaccination testing are not indicated. Most adults will be protected within 2-4 weeks after one dose of vaccine. HAV vaccine has been routinely recommended for California children since 1999, and most children and adolescents 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.

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 may 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 the 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 vaccine component.
- Pregnant women may be given HAV vaccine as 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, OPV/IPV, Hib, HepB, 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. Presence of clinical symptoms is highly age dependent; among older children and adults, 70% of cases present with jaundice. In children <6 years of age, 70% of infections are asymptomatic.

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

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.

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. HAV can be detected in the stool for longer periods (up to 10 weeks after illness onset), particularly in infants/young children.

Clinical case definition
An acute illness with:
a) discrete onset of symptoms; **and either**
b) jaundice or elevated ALT or AST levels.

Laboratory criteria for diagnosis
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 illness onset and usually disappears <4 months, but may persist ≥6 months. IgM anti-HAV may also be detectable 2 weeks after receiving HAV vaccine. IgG anti-HAV is detectable shortly after IgM appears 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 symptomatic persons and should not be used as a screening tool or part of testing panels for nonacute liver function abnormalities because of the risk of false positive test results.

If a positive IgM anti-HAV report is received on a patient without hepatitis symptoms or history of recent contact with an HAV-infected person, consider repeat IgM testing and a review of ALT or AST levels (often >500 units/L in acute hepatitis) before PEP recommendations are made for contacts.