INFORMATION PAPER

Military Vaccine Agency
1 March 2007

SUBJECT: Hepatitis A Infection and Hepatitis A Vaccine

1. Purpose. To describe hepatitis A virus, hepatitis A infection, and the vaccine to prevent it.

2. Facts.

a. Microbiology. Hepatitis A is a serious liver disease caused by the hepatitis A virus (HAV). HAV is found in the stool of people with hepatitis A. Hepatitis A can cause mild fever, fatigue, loss of appetite, nausea, jaundice (yellow skin or eyes), severe stomach pains, and diarrhea. Adults with the hepatitis A infection often have to be hospitalized. In rare cases, hepatitis A can cause death.

b. Epidemiology. Hepatitis A virus is usually spread by eating food or drinking water containing viruses from the stool of a person with hepatitis A. The disease is most common in areas with poor food, water, and sewage sanitation, such as Central or South America, the Caribbean, Mexico, Asia (except Japan), Africa, and southern or eastern Europe. HAV is also transmitted by men who have sex with men, by injecting and non-injecting drug users, by people with clotting-factor disorders (e.g., hemophilia), and by children living in areas with increased rates of hepatitis A.

c. Vaccine. Inactivated hepatitis A vaccine has been licensed in the United States since 1995 for use in people 2 years of age and older. The vaccine is recommended before exposure to hepatitis A virus for people at risk of contracting hepatitis A infection and for those who are more likely to get seriously ill if they do get infected with hepatitis.

(1) The vaccines currently licensed in the United States are *Havrix* (GlaxoSmithKline) and *Vaqta* (Merck Vaccine Division). The two vaccines use different potency measures but are comparably effective. The vaccines are at least 94% effective in preventing illness, and this level of protection lasts for more than 20 years. *Havrix* is combined with hepatitis B vaccine in a formulation called *Twinrix* (GSK).

(2) Please see additional information paper on counting combined regimens of Twinrix® and separate hepatitis A and hepatitis B vaccines at:
http://www.vaccines.mil/documents/1031MIP-Twinrix.pdf.

d. Immune globulin. Immune globulin (IG, “gamma globulin”) is a preparation of human antibodies that can be given before exposure for short-term protection against hepatitis A and to people who have already been recently exposed to hepatitis A virus. When administered within 2 weeks after exposure to HAV, IG prevents 85% of hepatitis A infections. This product has several disadvantages, such as limited supply, painful injection, and need for repeat dosing every 12 to 20 weeks. Hepatitis A vaccination has largely replaced use of immune globulin injections.

e. Immunization. The standard dosing of both brands of hepatitis A vaccine for people 2 to 18 years old is two 0.5-mL doses intramuscularly. People older than 18 years receive two 1-mL

doses. The initial dose is given on day 0 and is repeated once 6 to 12 months later. The two brands are interchangeable.

f. Cautions. The following people should not receive hepatitis A vaccine: people with a history of serious allergic reaction to a previous dose of hepatitis A vaccine; those who are moderately or severely ill, have infections, or immune system disorders; and those taking immune-suppressive medications, especially corticosteroids (e.g., prednisone).

g. Adverse Events. The risk of hepatitis A vaccine causing serious harm or death is extremely small. The most common side effect is pain or redness at the injection site. There are a few mild problems associated with the vaccine, such as soreness, headache, loss of appetite, and tiredness. More serious allergic reactions have rarely occurred. Signs of a serious allergic reaction can include difficulty breathing, hoarseness or wheezing, and hives.

h. DoD Policy. The vaccine is required for all troops, to prevent hepatitis A during deployment or travel to areas with poor food, water, and sewage sanitation. Because hepatitis A is present worldwide, it is required for all deployments. Vaccination against hepatitis A is recommended for any international traveler, except for travel to Canada, Western Europe, Scandinavia, Australia, and New Zealand. For children, follow guidelines from the Advisory Committee on Immunization Practices (ACIP).

3. References.

a. Advisory Committee on Immunization Practices. Prevention of hepatitis A through active or passive immunization. *MMWR* 2006; 55(RR-07):1-23. www.cdc.gov/mmwr/preview/mmwrhtml/rr5507a1.htm

b. CDC disease information. http://www.cdc.gov/ncidod/diseases/hepatitis/a/index.htm

c. Multiple resources (e.g., product insert, Vaccine Information Statements) assembled by the Military Vaccine Agency: www.vaccines.mil/hepA

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Approved by LTC Ford