

RECOMMENDED VACCINATION SCHEDULE FOR ADULTS

	Month 0	Month 1	Month 6
Hepatitis A vaccine*#	●		●
Hepatitis B vaccine†‡	●	●	●
Hepatitis A and B combination vaccine±	●	●	●

* Vaccination begun with hepatitis A vaccine from one manufacturer may be completed with hepatitis A vaccine from another manufacturer.^{3,8}

Havrix®1440 EL.U./1.0 mL **or** Vaqta® 50 U/1.0 mL given intramuscularly in the deltoid muscle.

† Engerix-B® 20 mcg/1.0 mL **or** Recombivax HB® 10 mcg/1.0 mL given intramuscularly in the deltoid muscle.

‡ For hemodialysis patients:

Engerix-B®: two 20 mcg/1.0 mL injections given at 0, 1, 2 and 6 months **or** Recombivax HB® 40 mcg/mL given at 0, 1, and 6 months, intramuscularly in the deltoid muscle.

± Twinrix® (combination of Havrix® 720 EL.U. and Engerix-B® 20 mcg vaccine in 1 mL) given intramuscularly in the deltoid muscle.

NONRESPONDERS¹⁻⁹

In immunocompromised patients and in hemodialysis patients, serologic testing may be necessary to determine antibody response. Additional booster doses of hepatitis A and/or hepatitis B vaccine or restarting the vaccination series may be needed.

REFERENCES

1. CDC. Prevention of Hepatitis A Through Active or Passive Immunization: Recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR 1999;48 (RR12):1-37.
2. Havrix® (Hepatitis A Vaccine, Inactivated) package insert. Philadelphia, PA; SmithKline Beecham; 2003.
3. Vaqta® (Hepatitis A Vaccine, Inactivated) package insert. West Point, PA; Merck & Co., Inc; 2003.
4. CDC. Hepatitis B Virus: A Comprehensive Strategy for Eliminating Transmission in the United States Through Universal Childhood Vaccination: Recommendations of the Immunization Practices Advisory Committee (ACIP). MMWR 1991;40 (RR13):1-19.
5. Engerix-B® [Hepatitis B Vaccine, (Recombinant)] package insert. Philadelphia, PA; SmithKline Beecham; 2003.
6. Recombivax HB® (Hepatitis B Vaccine, Recombinant) package insert. Whitehouse Station, NJ; Merck & Co., Inc; 2003.
7. Twinrix® [Hepatitis A Inactivated and Hepatitis B (Recombinant) Vaccine] package insert. Philadelphia, PA; SmithKline Beecham; 2003.
8. Centers for Disease Control and Prevention. Recommendations and Reports: Hepatitis A and B Vaccines. MMWR 2003;52 (RR01): 34-36.
9. Centers for Disease Control and Prevention. Recommendations for Preventing Transmission of Infections Among Chronic Hemodialysis Patients. MMWR 2001;50(RR05): 20-36.



Department of
Veterans Affairs



Employee Education System

VACCINATION AGAINST HEPATITIS A & B

A Summary of Current Recommendations

Revised March 2004

*Veterans Health Administration
National Hepatitis C Program
and
Hepatitis C Resource Centers*

For further information, consult the VA hepatitis C website at <http://www.hepatitis.va.gov> and the NIH Consensus Statement at <http://consensus.nih.gov/>



MODES OF VIRAL TRANSMISSION

- Hepatitis A Virus (HAV): by the fecal-oral route, through close person-to-person contact, or ingestion of contaminated food and water.
- Hepatitis B Virus (HBV): through blood or other body fluids.

VACCINES FOR HEPATITIS A AND B

Hepatitis A: Two inactivated vaccines

Hepatitis B: Two recombinant vaccines

Hepatitis A and B: One combination vaccine

- Administer the combination vaccine to patients who lack immunity to both infections and who belong to risk groups for both infections (see table on **Who To Vaccinate**).
- Administer either hepatitis A or B vaccine to patients who lack immunity to, and are at risk for, one virus but not the other (see table on **Who To Vaccinate**).

WHO TO VACCINATE FOR HEPATITIS A AND/OR HEPATITIS B¹⁻⁶

- Patients without prior immunity to hepatitis A or B (i.e. anti-HAV or anti-HBs and anti-HBc negative) who fall into one or more of the following groups as listed in table on **Who To Vaccinate**.
AND
- Patients without an allergy to any component of the hepatitis A or B vaccine or to yeast with the hepatitis B vaccine.

WHO TO VACCINATE	Hepatitis A Vaccine	Hepatitis B Vaccine
Chronic liver disease		
• Alcoholic cirrhosis	●	●
• Chronic hepatitis B	●	
• Chronic hepatitis C	●	●
• Autoimmune hepatitis	●	●
• Primary biliary cirrhosis	●	●
• Patients undergoing liver transplantation	●	●
Injection drug users	●	●
Persons engaged in high risk sexual activity		
• Men who have sex with men	●	●
• Persons with >1 sexual partner in a six-month period	●	●
Persons and military personnel traveling to endemic areas	●	●
Persons at occupational and/or transmission risk		
• Food handlers and kitchen workers	●	
• Certain institutional workers	●	
• Employees of day-care centers	●	
• Laboratory workers handling live hepatitis A	●	
• Police officer		●
• Personnel providing first-aid or medical assistance		●
• Healthcare personnel		●
Subpopulations at increased risk of exposure		
• Residents of communities experiencing an outbreak of hepatitis A	●	
• Sexual partners known to be HBsAg positive		●
• Infants born to HBV-infected mothers		●
• Persons living with someone who has hepatitis B		●
• Patients on hemodialysis		●
• Recipients of frequent blood transfusions or clotting factors	●	●
• Prisoners		●
• Alaskan natives	●	●
• Pacific Islander		●

WHY VACCINATE HEPATITIS C PATIENTS FOR HEPATITIS A AND B?

- Patients coinfectd with hepatitis C virus (HCV) and HAV or HBV are at increased risk for severe liver disease.
- Patients with HCV may be at increased risk for acquiring HBV.
- Vaccination against hepatitis A and B is beneficial in all patients with chronic liver disease. However, responses are better in patients with early compared to advanced disease.

VACCINATION APPROACH BASED ON SEROLOGY

Anti-HAV*	—	—	+	+
Anti-HBs**	—	+	—	+
	HAV & HBV Combination Vaccine (Twinrix®) or Individual Vaccines	HAV Vaccine (Havrix® or Vaqta®)	HBV Vaccine (Engerix-B® or Recombivax HB®)	No vaccine

* Anti-HAV: antibodies to hepatitis A antigen, either IgG or total (IgG plus IgM).

** Anti-HBs: antibody to hepatitis B surface antigen

Note: A positive anti-HBc (antibody to hepatitis B core antigen) in the absence of anti-HBs may not indicate immunity, and recommendations for vaccinations in this situation are not available.