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Hepatitis B and Hepatitis B Vaccine

## WHAT IS HEPATITIS B?

Although hepatitis B is an unpredictable viral disease with a variety of presentations and outcomes, most patients recover. Persistence of viral infection (the chronic carrier state) occurs in 5 to 10% of persons who become infected with hepatitis B virus (HBV). Acute hepatitis B infection may be symptomatic and can incapacitate a person for weeks to months or lead to complications or chronic sequelae. However, 50 to 60% of all hepatitis B infections are subclinical, asymptomatic, and usually undetected. These cases have a greater risk of progression to chronic sequelae. Chronic sequelae of hepatitis B infection include:

- Chronic carrier state - develops in 6-10% of adult patients who have hepatitis BM
- Chronic persistent hepatitis - generally benign
- Chronic active hepatitis - major late complication; occurs in 3-5% of cases; often progresses to cirrhosis
- Cirrhosis - an estimated 11% of deaths due to cirrhosis are associated with hepatitis B (4000/year in the United States)
- Liver Cancer - the relative risk for carriers is 273 times greater than for non-carriers (800 die/year from Hepatitis B related liver cancer in the United States)

There is no specific treatment and no known cure for hepatitis B. The new vaccine can help prevent hepatitis B.

## HEPATITIS B VACCINE

The Immunization Practices Advisory Committee (ACIP) USPHS, has identified certain populations at risk of HBV infection and has recommended vaccination for appropriate members of the following groups:

### ACIP recommendations for vaccination against Hepatitis B infection

- health-care workers
- hospital staff
- clients and staff of institutions for the mentally retarded
- hemodialysis patients
- homosexually active males
- illicit injectable drug users
- recipients of certain blood products
- household and sexual contacts of HBV carriers
- Alaskan Eskimos
- infants born to mothers who are HBV carriers
- classroom contacts of deinstitutionalized mentally retarded HBV carriers who behave aggressively
- special high-risk populations from areas where Hepatitis B is highly endemic
- Indochinese and Haitian refugees
- inmates of long-term correctional facilities

Persons at substantial risk of Hepatitis B infection who are demonstrated or judged likely to be susceptible should be vaccinated.

## VACCINATION:

Vaccination consists of 3 intramuscular doses of vaccine. The second and third doses should be given 1 and 6 months, respectively, after the first. Vaccine doses administered at longer intervals than those stipulated provide equally satisfactory protection, but optimal protection is not conferred until after the third dose. The duration of protection and the need for booster doses have not yet been determined.

Vaccination of individuals who possess antibodies against HBV from a previous infection is not necessary but will not cause adverse effects. The vaccine produces neither therapeutic nor adverse effects in Hepatitis virus carriers.

## POSSIBLE SIDE EFFECTS FROM THE VACCINES:

Adverse Reactions: hepatitis B vaccine is generally well tolerated. No serious adverse reactions attributable to vaccination have been reported during the course of clinical trials involving administration of hepatitis B vaccine to over 6,000 individuals. Approximately half of all reported reactions were injection-site soreness. Other less common local reactions have included erythema, swelling, warmth, or induration. These signs and symptoms of local inflammation are generally well tolerated and usually subside within 2 days of vaccination.

Low-grade fever (less than 101°F) occurs occasionally and is usually confined to the 48-hour period following vaccination. Although uncommon, fever over 102°F has been reported. Systemic complaints, including malaise, fatigue, headache, nausea, dizziness, myalgia, and arthralgia, are infrequent and have been limited to the first few days following vaccination. Rash has been reported rarely.

As with any vaccine, there is the possibility that broad use of the vaccine could reveal rare adverse reactions not observed in clinical trials.

**WARNING - SOME PERSONS SHOULD NOT TAKE THIS VACCINE WITHOUT CHECKING WITH A DOCTOR:**

- Hepatitis B vaccine is not known to cause special problems for pregnant women or their unborn babies. However, doctors usually avoid giving any drugs or vaccines to pregnant women unless there is a specific need. Pregnant women should check with a doctor before taking hepatitis B vaccine.
- Those who are sick with something more serious than a cold.