ADMINISTRATIVE DIRECTIVE – 112.014
HEPATITUS B VACCINATION PROTOCOL

EFFECTIVE DATE: June 26, 1992 **REVISION DATE: December 1, 2004**
REVIEW DATE: February 1, 2006
AFFECTS: All Personnel

I. PURPOSE

The directive explains departmental procedures related to Hepatitis B Vaccination as administered by the City of Plano.

II. POLICY

It is important to reduce the risk of HBV infection. Prevention of contact with sources of infection is one component of risk reduction. Prevention of infection by administration of the HBV vaccine is another component of overall risk reduction.

III. DEFINITIONS

Hepatitis B (HBV) – is a viral infection affecting primarily the liver. HBV infection is transmitted through contact with infectious body fluids. While HBV infection may resolve without significant health effects, in some cases serious consequences, including chronic infection, liver failure and death, may result.

IV. PROCEDURES

A. OSHA Guidelines

Regulations issued by OSHA pertaining to occupational exposure to blood borne pathogens (29 CFR, Part 1910.1030) include the provision of HBV vaccine to employees. While municipal law enforcement agencies are not under Federal OSHA's jurisdiction, the OSHA regulation will most likely be upheld as the standard of practice for employee protection against occupational exposure to blood borne pathogens.

B. Purpose of Vaccination

1. Because of the nature of their work, police officers, jailers, ID Techs, etc., have an increased risk of exposure to HBV. This increased risk results from potential contact with body fluids in the course of their duties. Individuals with whom they come into contact may be at increased risk of hepatitis infection. Crime investigation and collection of evidence may also be associated with potential exposure to infectious body fluids.

2. The risk experienced by the individual will be dependent on his or her frequency of skin and mucosal contact with infectious body fluids.

C. Vaccination Procedures

1. Prevaccination Serologic Screening

a. This procedure identifies the immunity status of the individual prior to consideration for vaccination. This procedure will **not** be performed as a routine part of this vaccination program. The relatively low prevalence of HBV exposure in this population results in prevaccination serologic screening being inefficient in terms of overall costs. There is no adverse consequence of administering vaccine to a previously exposed individual. Therefore, all individuals who voluntarily agree to participate will be vaccinated.

b. An individual may give a history of prior HBV infection; immunity to HBV could be present in such a case, eliminating the need for vaccination. Or, an individual may request serology testing prior to vaccination to avoid being vaccinated if immunity can be demonstrated. Prior to the administration of vaccine, the presence of antibody to core antigen (anti-HBc) **will be assessed in these specific cases** as evidence of prior HBV infection. Acquired immunity is uncommon in the general population. A physician will evaluate the test result to determine the need for HBV vaccination.

2. Adverse Reaction to Vaccine

   a. Adverse reactions to the MSD HBV vaccine are uncommon. Soreness, pain, or tenderness may be experienced at the injection site following each vaccination. In addition, headache, fatigue, fever or nausea may be experienced following each vaccination.

   b. The availability of hypersensitivity treatment is mandatory during vaccination procedures.

3. Vaccination Protocol

   a. Informed Consent Procedure – Individuals designated for participation in the HBV infection prevention program will receive instruction on HBV infection, including sources of exposure and potential health consequences of infection. This instruction will occur prior to vaccination.

   b. Participation in all aspects of the HBV vaccination program is voluntary. Upon completion of all academy or basic orientation training, higher risk personnel are given the opportunity to participate in the program. Informed consent (release of authorization) will be required of those who choose to participate. An individual may refuse to participate in the vaccination program prior to or during the vaccine series. In this case, the individual will date and sign the informed refusal form indicating his or her decision. The employee may choose to participate at a later time by notifying his/her immediate supervisor.

   c. The informed consent form will include the following information:

      (1) Benefits and potential risks of HBV vaccination;

      (2) The vaccination procedure and post-vaccination serology testing;

      (3) A statement concerning the individual's allergies, (including yeast) current medications, and previous reactions to immunizations, if any;

      (4) A statement concerning the presence of immune dysfunction or hemodialysis treatments

4. Type of Vaccine

   a. The HBV vaccine used in this program is currently recommended for use by recognized medical standards.

   b. The manufacturer's recommendations for HBV vaccination will be followed at all times.

5. Administration of Vaccine

   a. Primary vaccination consists of three (3) doses of vaccine, with the second and third doses given 1 and 6 months, respectively, after the first dose. The vaccine can only be administered by the three dose series. The series of three doses results in sufficient immunity in over 90% of vaccinated adults.

   b. All vaccines will be administered by the intramuscular route in the deltoid muscle.

   c. If the vaccination series is interrupted after the first dose, the second dose should be administered as soon as possible. An increased time interval between the first and second doses will not significantly affect vaccine effectiveness.

   d. The third dose acts as a booster dose. The time interval between the second and third doses should be at least two (2) months. If only the third dose is delayed, it may be administered at the earliest convenience.

e. These vaccination procedures will be followed for each individual unless as directed by a physician.

6. Dosage

   Dosage will be administered as recommended by current medical standards for the particular vaccine and is based on the age of the recipient.

7. Contradictions

   a. Administration of other vaccines will not alter the HBV vaccination sequence. The effectiveness of HBV vaccination is not affected by the administration of other vaccines at or around the time of the HBV vaccination.

   b. Pregnancy or lactation are not considered contraindications to HBV vaccination.

   c. Individuals receiving dialysis or with compromised immune systems may require a higher vaccine dose. The recommendations of a physician will be followed for these individuals.

8. Confirmation of Immunity

   a. Serologic testing of immunity status will be conducted at 6-8 weeks following administration of the third dose of vaccine. Measurement of antibody to HBV surface antigen (HBsAg) will be used to determine immunity status.

   b. Individuals demonstrating a lack of immunity following the third dose of vaccine will be candidates for revaccination.

   c. An individual who fails to demonstrate adequate immunity upon completion of the standard vaccination series may elect not to receive additional doses of vaccine. In this case, the individual will date and sign the informed refusal form indicating his or her decision.

   d. If the individual is determined to be non-immune by serology testing, an additional dose of vaccine will be administered and serology testing will be repeated at one month following this dose.

   e. If immunity is demonstrated following this repeat single dose, then response to vaccination can be assumed. If non-immunity persists, then up to two more additional doses may be administered, with repeat serology testing one month after each additional dose.

   f. An individual who did not undergo serology testing within six months of the last dose of vaccine, and who subsequently fails to demonstrate immunity, should receive one additional dose followed by repeat serology testing one month later. (The individual tested more than six (6) months after receiving the third dose of vaccine may not demonstrate immunity by serology testing, but may nevertheless have adequate immunity).

   g. The individual who persistently fails to demonstrate immunity should be considered at risk for HBV infection. He or she will be counseled regarding this risk by the employer. Lack of HBV immunity will affect post-exposure preventive procedures.

   h. Once immunity is attained, additional booster doses or repeat serologic testing is not necessary. However, immunity to HBV infection may not persist indefinitely following primary immunization.