



Maryland Vaccination & Testing Program

For EMT-Paramedic Providers



Maryland Vaccination & Testing Program Overview



- Program Administration
- Hepatitis B
- Hepatitis B Vaccination
- Influenza
- Influenza Vaccination
- PPD Test/Titers
- Practice
- Written Examination



Program Objectives



- By the conclusion of the Maryland Vaccination & Testing Program, the EMT-P shall be able to:
 - Recall the responsibilities of the medical director;
 - Identify the vaccines & test permitted to be administered;
 - Explain the pathophysiology of Hepatitis B and Influenza;



Program Objectives Continued



- Recite the dosage, administration route/site, contraindications, side effects and rules associated with approved vaccines & tests;
- Explain the effects of both Hepatitis B & Influenza vaccinations;
- Demonstrate/Indicate how to administer all approved vaccines & tests;
- Demonstrate/Indicate how to read a PPD test;
- Describe the process of drawing titres



Program Administration



- Medical Director Responsibilities
 - Instruction;
 - Personnel selection;
 - Quality assurance;
 - Occupational medicine liaison;
 - Assure OSHA/MOSH compliance;
 - Maintain records.



Recommended & Approved Vaccines & Tests

- Vaccines
 - Hepatitis B
 - Influenza
- Tests
 - PPD
 - Vaccine Titers



Latex Allergies



ALERT

- If you are using latex equipment (gloves, tubing, etc.) during any of the vaccinations or tests, be sure to ask about latex allergies during initial interview process.
- Failure to do so could precipitate an anaphylactic reaction



Hepatitis B



- Inflammation of the liver
- Caused by Hepatitis B Virus (HBV)
- Effects vary
 - no symptoms
 - mild illness
 - short-term severe illness
 - long-term (chronic) infection
 - liver damage, cirrhosis
 - liver cancer
 - liver failure, death



Hepatitis B



- Major infectious hazard for health care workers (HCWs)
- During 1993, estimated 1450 HCWs became infected through blood/body fluid exposure
- Estimated 100-200 HCWs have died annually in the 1990s because of chronic consequences of HBV infection



Hepatitis B Vaccine



- Best protection against Hepatitis B virus
- Safe, effective
- First anti-cancer vaccine
- Recommended for all HCWs whose jobs involve a reasonable potential for contact with blood or body fluids
- Risks are often highest during training so vaccine should be completed before trainees have contact with blood



Hepatitis B Vaccine



- Three doses (1 ml each); use 3 cc syringe with 1 inch 25 ga. needle
 - Initial,
 - 2nd dose 4 weeks after initial,
 - 3rd dose 5-6 months after 2nd dose
- Booster doses not necessary
- Indications:
 - Pre-exposure - preventive
 - Post-exposure - initiate series if unvaccinated



Hepatitis B Vaccine



- Administered IM in the deltoid
- Contraindications
 - Previous anaphylactic reaction to bakers yeast
- Pregnancy is *NOT* considered a contraindication.
- CDC recommends antibody testing 1-2 months after the third dose to determine immunity.
- Must read and sign consent form.



Influenza



- Characterized by abrupt onset of fever, myalgia (sore muscles), sore throat, cough
- Can cause severe malaise (general discomfort, uneasiness) lasting several days
- Can lead to influenza pneumonia or secondary bacterial pneumonia
- In the US, influenza activity generally peaks between late December and early March



Influenza



- Influenza viruses undergo antigenic “shift” (minor changes, same subtype) and “drift” (major changes, new subtype.)
- Severity of illness depends on prior experience with antigenically derived virus.
- Virus change, either shift or drift, occurs every year.



Influenza Vaccine



- Vaccinating persons at high risk before the influenza season each year is the most effective measure for reducing the impact of influenza.
- Each year's influenza vaccine contains three virus strains (usually 2 type A and 1 type B), representing the influenza viruses that are likely to circulate in the US in the upcoming months.



Influenza Vaccine



- To reduce staff illnesses and absenteeism during influenza season and to reduce the spread of influenza to and from workers and patients, the CDC recommends influenza vaccine each year for:
 - persons who attend patients at high risk for complications, e.g. the elderly and children
 - persons with chronic medical conditions
 - pregnant women who will be in the second or third trimester of pregnancy during influenza season
 - providers of essential community services



Influenza Vaccine



- Administered annually using current vaccine
 - 1 Dose (0.5-1 ml each) depending on manufacturer recommendation; use 3 cc syringe with 1 inch 25ga. needle
- Given IM in the deltoid
- Contraindication
 - History of anaphylactic hypersensitivity to eggs
- Vaccine should be delayed in the presence of acute febrile illness; administer after symptoms have abated.



Influenza Vaccine



- Most frequent side effect is soreness at the injection site that lasts up to 2 days.
- Systemic reactions uncommon - fever, malaise, myalgia beginning 6-12 hours after vaccination and persisting for 1 to 2 days.
- Immediate hypersensitivity reactions are rare.
- Neurologic reaction - extremely rare



Influenza Vaccine



- Takes 2 weeks for patient to develop adequate antibodies against the vaccine strain
- Optimal time for organized vaccination campaigns is usually the period from October through mid-November.
- Because influenza vaccine contains only killed or noninfectious viruses, *it cannot cause influenza.*
- Must read and sign consent form.



Purified Protein Derivative (PPD)



- Administration:
 - 1 Dose (0.1 ml each); use 1 cc with needle tuberculin syringe
 - Per manufacturers recommendation
 - Administered in the medial forearm intradermally; directly below the epidermis (avoiding veins)
 - Create a wheal under the epidermal layer
 - Yearly administration



PPD Continued



- **Contraindications**
 - Previous positive reaction to PPD
 - Has had TB
- **Must read and sign consent form**
- **Video**



Reading the PPD Test



- Feel induration (hardness) with your finger tips
- Mark the widest part of the induration
 - (Not the redness)
- Measure with approved device recorded in millimeters (mm)
 - **Less than 5 mm** is negative
 - **Greater than or equal to 5 mm** requires clinical correlation and evaluation by the medical director or other appropriate physician



Drawing Titters



- Red or Tiger top vaccutainer
- Utilize antecubital vein
- Sterile technique
- Storage and delivery of vaccutainers



Practice

- Check your medications
 - Right medication, Right dose, Right route, Right patient
- IM Injections
 - Use the correct volume prescribed for the vaccinations.
- ID Injections
 - Use the correct volume prescribed for the PPD (Mantoux) test.



Written Examination



- 20 questions are on the exam;
 - To successfully complete the course, you must score at least a 70%.
 - You have 20 minutes to complete it.



Summary

- Program Administration
- Hepatitis B
- Hepatitis B Vaccination
- Influenza
- Influenza Vaccination
- PPD Test/Titers
- Practice
- Written Examination