

**BLOOD BORNE PATHOGENS
EXPOSURE CONTROL PLAN
FOR HIGH RISK DEPARTMENTS**



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POLICY STATEMENT

Davie County is committed to providing a safe working environment for employees. This policy was formed to meet that goal and to comply with applicable sections of the Occupational Safety and Health Standards for General Industry (29 CFR Part 1910). Davie County seeks to protect its employees from the occupational acquisition of communicable diseases. To do this, employees, volunteers, students, trainees and observers whose activities might involve contact with patients, clients, or their blood and body fluids must follow these guidelines.

Exposure is defined as coming into contact with, but not necessarily being infected by, a disease causing agent.

Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that result from the performance of an employee's duties.

OSHA has developed three categories to describe an employee's occupational exposure to communicable disease.

- Category 1:** Jobs involve activities with direct contact with blood or other body fluids to which Universal precautions¹ apply.
- Category 2:** Jobs involve activities performed without blood exposure but exposure may occur in an emergency.
- Category 3:** Jobs involve activities that do not entail predictable or unpredictable exposure to blood.

Human Resources will periodically review and will indicate the appropriate category on all job descriptions.

All workers will follow this policy whether care is provided in a county department, home, laboratory, or in the community. The blood and body fluids of all clients will be treated as potentially infected. Universal precautions will be followed. It is the responsibility of each employee to follow this policy. Willful violations of the Exposure Control tenets may result in severe disciplinary action. All employees should be alert for potential exposures. Any exposure must be immediately reported to the supervisor.

¹Universal or Standard Precautions are described in Appendix A

I. ORIENTATION WITH EMPLOYEES AND STUDENTS

- A. This policy will be reviewed with each new category I and II employee. Rider observers, students or trainees who will be performing category I and II tasks with county agencies must complete training in exposure control practices prior to starting. Universal precautions will be stressed. Employees who fail to follow universal precautions may be disciplined. Volunteers, students and trainees who fail to follow universal precautions may not be allowed to continue their work or internship.

II. PHYSICAL EXAMINATION AND IMMUNIZATIONS

- A. **Physical examinations** may be required prior to employment.
 - 1. All components of the attached forms should be completed.
 - 2. Subsequent physicals may be indicated by circumstances.
- B. **Random drug screening** will be carried out as required by County policy.
- C. **Immunizations**
 - 1. An immunization history will be completed as part of the pre-employment physical.
 - 2. Required immunizations
 - a. Documented immunization or titer for measles and rubella will be needed for people born after 1957. (Once a person has been immunized or proven immunity to rubella this need not be repeated.)
 - b. Tetanus-diphtheria boosters every 10 years.
 - 3. Recommended immunizations
 - a. Annual flu vaccine is available to be administered at the Davie County Wellness Employee Clinic.
 - b. Hepatitis B vaccine will be offered free to employees in category 1 and 2 positions. Those refusing the vaccine must sign a waiver. (See Appendix B.)
 - 4. Immunization status will be evaluated annually.
- D. **Tuberculosis (TB) Screening**
 - 1. Annual Mantoux TB skin test on all employees with a history of a positive exposure.
 - 2. Chest x-ray if indicated by North Carolina TB policy.
 - 3. Annually a risk assessment will be done and reviewed by the exposure control committee. The assessment will be used to update the exposure control plan.
- E. **Respiratory Protection**
 - 1. Annual respiratory evaluations are recommended for employees required to utilize HEPA or N95 masks.
 - 2. With approval of the Risk Manager, department infection control officers may institute a method for evaluation based on departmental needs

III. CONTINUING EDUCATION AND INSERVICE

- A. Employees in high-risk positions will be provided annual continuing education on the county infection control policy, communicable diseases, modes of transmission and the appropriate use of safety equipment. Each worker should have a basic knowledge of diseases that they may come in contact with on the job. Some of the diseases are Hepatitis, Influenza, HIV, Tuberculosis, Lice, Scabies, Rubella, Rubeola, Meningitis and Pertussis. Training must be conducted annually with subsequent training within 364 days of the prior training.

IV. SAFETY EQUIPMENT AND SUPPLIES

- A. Gloves and barrier clothing will be provided and shall be used when the employee, rider observers, student or trainee may come in contact with blood or body fluids. Safety glasses are required for any procedure where splashing and spraying of body fluids may occur. These are available in the work area. Protective equipment shall be provided, used and maintained in a sanitary and reliable condition

wherever there is potential for exposure. Special equipment such as airways, bag valve masks, and mouthpieces are to be used as indicated. Special puncture proof containers are located in all areas where sharps may be generated and shall be used for disposal. Waterless hand cleaners are available where hand washing facilities are not convenient.

- B. All personal protective equipment shall be of safe design and workmanship. All personal protective equipment will be practical and suitable for the tasks performed.
- C. Gloves shall be used in the following situations:
 - 1. If the employee has cuts, non-intact skin, chapped hands, or dermatitis.
 - 2. During examination of the mouth, nose, gastrointestinal tract and genitourinary tract.
 - 3. When examining and treating patients with open wounds, non-intact skin or active bleeding.
 - 4. During all invasive procedures. Some examples are starting intravenous fluids and drawing blood.
 - 5. Cleaning blood and body fluid spills or decontaminating equipment.
- D. Gloves will be available in a variety of sizes to ensure proper fit.
- E. Employees shall not wash or disinfect surgical, examination or other gloves intended for single use. General-purpose utility (rubber) gloves worn by maintenance, housekeeping, or other non-medical personnel may be decontaminated and reused.
- F. No gloves shall be used if they are punctured, torn, cracked or discolored. Gloves will be immediately replaced when deterioration is noted.
- G. The use of a fluid proof or fluid resistant garment is required when splashes of body fluids are anticipated. The garment may be a gown, apron, lab coat or other garment that protects exposed skin and clothing. The garment should allow safe uninhibited performance of the task.
- H. Masks and eye protection are required when splashes or aerosolization of blood or body fluids to the eyes, nose or mouth are a possibility. For example, oral suctioning involves a risk of aerosolization. They are not required for routine care. A table summarizing these recommendations is attached as Appendix D.
- I. For suspected cases of TB or other airborne diseases employees shall use a HEPA or N95 mask.
- J. Eyewash stations will be available in county facilities where direct patient care is provided.

V. TAGS-HAZARD IDENTIFICATION

- A. Tags shall identify areas where employees may be exposed to hazardous or potentially hazardous conditions, equipment or operations until the identified hazard is eliminated or the operation is completed.
- B. Tags shall contain a "signal word" such as BIOHAZARD or the biological symbol. A message that indicates the specific hazardous condition or safety instructions to the worker must accompany the "signal word" or symbol.
- C. Bags or other receptacles containing contaminated articles must be tagged or otherwise identified.
- D. All employees shall be informed of the meaning of the various tags used throughout the workplace. Instruction will be provided to the employees on the necessary precautions relating to each different tag.



VI. HAND WASHING

- A. Hand washing is a very effective measure in preventing the spread of communicable diseases. Hands and other skin surfaces shall be washed as soon as possible after contact with the blood or body fluids of another individual. Hands should be washed after touching potentially contaminated articles. Hands must also be washed between patients or clients. Hands must be washed after gloves are used.
- B. Hand washing should be done at a utility or rest room sink. Do not wash hands in a food preparation area. Wash hands with warm running water and soap. Work up a good lather and scrub hands vigorously for 20 seconds. Rinse well and dry thoroughly. Hands should preferably be dried with paper towels. Turn off the faucet with a paper towel. Discard the used paper towels in a waste receptacle.
- C. Sometimes sinks and hand washing facilities are unavailable. In these cases a waterless hand cleaner should be used. Waterless hand cleaners have an alcohol base. Apply the cleaner according to the manufacturer's recommendation. Friction is required to kill surface organisms. This is not a substitute for washing hands with soap and water. At the earliest opportunity the hands should be washed thoroughly with soap and water.

VII. CONTACT ISOLATION

- A. Contact precautions prevent the transmission of microorganisms through direct skin-to-skin contact or skin to contaminated item contact. Use these procedures when working with patients known or suspected to be infected with infectious pathogens. Some examples are multi-drug resistant bacteria and *Clostridium difficile*.
- B. Wear clean non-sterile gloves when entering the patient area. While providing care, interrupt your task if you touch fecal material or wound drainage and change gloves. Remove gloves when leaving the patient area and immediately wash your hands.
- C. When your job requires moving, lifting or extensive contact with the patient a non-sterile gown should be worn to protect clothing unless the worker is wearing appropriate protective clothing issued by the department.
- D. Equipment coming into contact with these patients shall be washed after use.

VIII. HOUSEKEEPING

- A. Walls, floors and other surfaces should be cleaned when soiled. Any commercially available cleaner or disinfectant may be used. Cleaning and removal of soil should be done routinely. Wear gloves when doing general cleaning in areas where blood and body fluid spills are likely.
- B. Spills of blood or body fluids should be cleaned up quickly using an approved disinfectant. Gloves must be worn. If splashing is anticipated during clean up protective face shield and a gown or fluid proof apron should also be worn. The area can then be decontaminated.
- C. Several disinfectants may be used to clean blood and body fluid spills. These include:
 - 1. Chemical germicides approved for use as hospital disinfectants. These agents shall be tuberculocidal when used as indicated by the manufacturer.
 - 2. Products designated by the Environmental Protection Agency as effective against HIV. This information must be stated on the label.
 - 3. Solutions of 5.25% sodium hypochlorite (household bleach) and water. Dilutions from 1:10 to 1:100 are acceptable. The solution of sodium hypochlorite needs to be mixed at the time of use.
- D. The procedure for cleaning a blood or body fluid spill is as follows:

1. Assemble cleaning supplies which include gloves, a trash bag, paper towels and disinfectant.
 2. Put on the gloves. Visible blood, tissue, body fluid or body waste should be wiped up with paper towels. Place the paper towels into the trash bag.
 3. Spray the contaminated area with the disinfectant. Surface should be thoroughly wet and glisten. Let area air-dry.
 4. Discard the gloves into the trash bag last. Knot the trash bag and place it into a trash receptacle. (This is considered pre-treated waste.)
 5. The employee should wash his or her hands thoroughly.
- E. Reusable equipment should be sterilized or disinfected according to CDC Guidelines recommended for Hepatitis B. Equipment must be cleaned in a utility sink **not** in a food preparation area.

IX. LINEN

- A. Employees handling used linen are not required to wear gloves unless linen is soiled with blood or body fluids. All linen shall be bagged as soon as possible in the area where it was used. Linen shall not be sorted or rinsed in patient care areas. Soiled linen shall be moved in leak proof bags.

X. WASTE DISPOSAL

For disposal of medical waste, departments should refer to the latest medical waste guidelines from the North Carolina Department of Environment and Natural Resources. The website is <http://portal.ncdenr.org>.

- A. Regulated waste means liquid or semi-liquid blood or other potentially infectious materials, contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood and other potentially infectious materials. Less than 20cc of blood (2/3 ounce) may be disposed of with normal trash so long as it is properly enclosed in plastic bags and will not leak.
- B. Containers for solid or liquid waste and refuse must be leak proof. They shall be made of a material that can be easily cleaned. Containers with tight fitting lids are preferred. Regardless of the design the container must be maintained in a sanitary manner.
- C. Full containers shall be disposed of in accordance with state law. Contracting this task to private industry is recommended.
- D. Regulated waste can be disposed of in two ways. Such wastes shall either be pre-treated prior to routine disposal or placed in a leak proof container for disposal by a private firm.
- E. Sharp instruments are to be disposed of in puncture resistant containers. Needles are **not** to be recapped, bent or broken by hand. Items such as self-sheathing needles or forceps can be used to prevent recapping needles by hand.
- F. Sharps containers will be located in the work areas where needles and other sharps are generated. Puncture resistant containers must be designed to prevent accidental spilling of the contents.
- G. Refuse, garbage and non-infectious solid and liquid waste are to be disposed of daily or as needed to maintain a safe environment in the workplace.

XI. TRANSPORTING LAB SPECIMENS

- A. All samples of blood or body fluids shall be put into a leak proof container when transportation is necessary.

XII. RECOMMENDED WORK RESTRICTIONS

- A. When employees, volunteers, students or trainees acquire a communicable disease their job activities may need to be restricted to prevent further spread of disease. The following chart provides a summary of recommended work restrictions.

<u>DISEASE/PROBLEM</u>	<u>RELIEVE FROM PATIENT CONTACT</u>	<u>PARTIAL WORK RESTRICTION</u>	<u>DURATION</u>
Conjunctivitis, infectious	Yes		Until discharge ceases
Cytomegalovirus, infectious	No	TBD	Treatment as needed
Diarrhea, acute	Yes		Until symptoms resolve and R/O Salmonella
Diarrhea, convalescent	No	Personnel should not take care of high risk patients	Until stool is free of the infecting organism on 2 consecutive cultures not less than 24 hours apart
Other enteric pathogens	No		
Enteroviral	No	Personnel should not take care of infants and newborns	Until symptoms resolve
Group A streptococcal disease	Yes		Until 24 hours after treatment
Hepatitis A	Yes		Until 7 days after the onset of jaundice
Hepatitis B, acute and Hepatitis B carrier	No	Personnel should wear gloves for procedures that involve trauma to tissues or contact with mucous membranes or non-intact skin	Until antigenmia resolves
Hepatitis Non-A, Non-B (acute Hepatitis C)	No	Same as acute Hepatitis B	Period of infectivity has not been determined
Herpes simplex, genital	No		
Herpes simplex, orofacial	No	Personnel should not take care of high risk patients	Until lesions heal
Hepatic whitlow	Yes	It is not known whether gloves prevent contamination	Until lesions heal

<u>DISEASE/PROBLEM</u>	<u>RELIEVE FROM PATIENT CONTACT</u>	<u>PARTIAL WORK RESTRICTION</u>	<u>DURATION</u>
HIV	No	Personnel should wear gloves for procedures that involve trauma to tissues or contact with mucous membranes or non-intact skin	As long as providing direct patient care
Immunosuppressed i.e. HIV, chemotherapy, renal failure, etc	Yes		Until cleared by physician
Measles, active	Yes		Until 4 days after the rash disappears
Measles-Post exposure, susceptible personnel	Yes		From the 5th through the 21st day after exposure or 4 days after the rash appears
Mumps, active	Yes		Until 9 days after onset of parotitis
Mumps-Post exposure susceptible personnel	Yes		From the 12th day through the 26th day after exposure or until 9 days after onset of parotitis
Pertussis, active	Yes		From the beginning of the catarrhal stage through the 3rd week after onset of paroxysms or until 7 days after start of effective therapy
Pertussis-Post exposure susceptible personnel	No		Same as active Pertussis if symptoms develop
Rubella, active	Yes		Until 7 days after the rash appears
Rubella-Post exposure susceptible personnel	Yes		From the 7th day through the 23rd day after exposure or 7 days after rash appears
Scabies, lice and body parasites	Yes		Until treated
Staphylococcus aureus, skin lesions	Yes		Until lesions have resolved
Tuberculosis	Yes	Yes	Restricted until Public Health determines employee is no longer infectious. Infection period could vary.
Upper respiratory infections	Yes	Personnel with upper respiratory infections	Until acute symptoms resolve

<u>DISEASE/PROBLEM</u>	<u>RELIEVE FROM PATIENT CONTACT</u>	<u>PARTIAL WORK RESTRICTION</u>	<u>DURATION</u>
		should not take care of high-risk patients	
Zoster (Shingles)	No	Appropriate barrier desirable; personnel should not take care of high-risk patients	Until all lesions dry and crust
Varicella (Chickenpox) active	Yes		Until all lesions dry and crust
Varicella-Post exposure	Yes		From the 10th day through the 21st day after exposure or if varicella occurs until all lesions dry and crust

IF THE EMPLOYEE IS PHYSICALLY TOO ILL TO WORK, HE OR SHE SHOULD BE RELEASED FROM WORK. A PHYSICIAN'S ORDER FOR RETURN TO WORK MAY BE REQUIRED.

XIII. REPORTING EXPOSURES

- A. Employees, rider observers, students or trainees who think they have been exposed to a communicable disease are to report the incident as soon as possible to their supervisor. The details of the incident will be documented in writing. The report should include:
 - 1. The suspected disease
 - 2. The date and time of the exposure
 - 3. Type of exposure, i.e. blood, body fluid, secretion or airborne
 - 4. Details of exposure to include the area of contact
 - 5. Conditions of the exposure i.e. location, confined space, length of time of exposure
 - 6. The name of the source patient if known
 - 7. Employees are to have NC State Workers Compensation Form and county exposure form completed and sent to the Risk Manager.

- B. Departments with category 1 and 2 employees will have a designated infection control person. All exposure reports will go to the appropriate infection control person for review. The report will also be forwarded to the Safety Supervisor. Other departments without a specific infection control person will forward their reports directly to the Safety Supervisor. In all cases this report should be to the infection control person within 24 hours of the event. Based on the information follow up will be initiated in accordance with policy.

XIV. POST EXPOSURE FOLLOW-UP

- A. Initial testing and follow-up testing will be through a facility specified by the County. The employees' department will normally arrange follow-up testing. Specific protocols, which indicate courses of treatment for different types of exposures, are listed in the following chart. Exposures to diseases not covered by these protocols will be treated as prescribed by the attending physician.

- B. Employees will be offered testing in cases of exposure to Hepatitis B, C and HIV and other communicable diseases for which definitive testing exists. As definitive testing for other communicable diseases becomes available, they will be added.

XVIII. RECOMMENDATIONS FOR HEPATITIS B PROPHYLAXIS FOLLOWING PERCUTANEOUS EXPOSURE

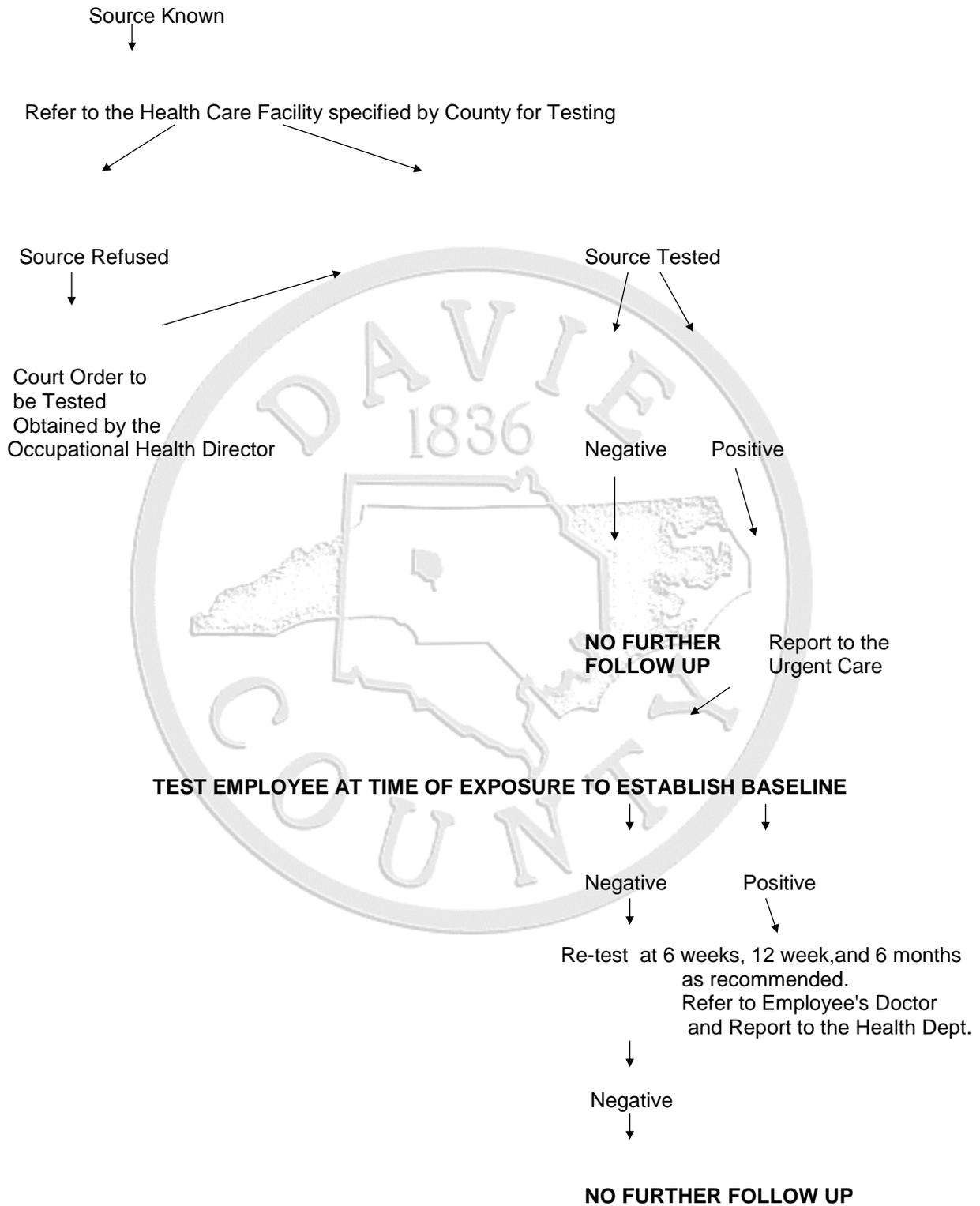
Treatment when source is found to be:

Exposed Person	HBsAg positive	HBsAg negative ¹	Unknown or not tested ¹
Unvaccinated	Administer HBIG x 1* and initiate hepatitis B vaccine+, [^]	Initiate hepatitis B vaccine+	Initiate hepatitis B vaccine+
Previously vaccinated Known responder	Test exposed person for anti-HBs. 1. If adequate, no treatment 2. If inadequate, hepatitis B vaccine booster dose [^]	No treatment	No treatment
Known non-responder	HBIG x 2 or HBIG x 1, plus 1 dose of hepatitis B vaccine [^]	No treatment	If known high-risk source, may treat as if source were HBsAg positive
Response unknown	Test exposed person for anti-HB++ 1. If inadequate HBIG x 1, plus hepatitis B vaccine booster dose [^] 2. If adequate, no treatment	No treatment	Test exposed person for anti-HBs++ 1. If inadequate, hepatitis B vaccine booster dose 2. If adequate, no treatment

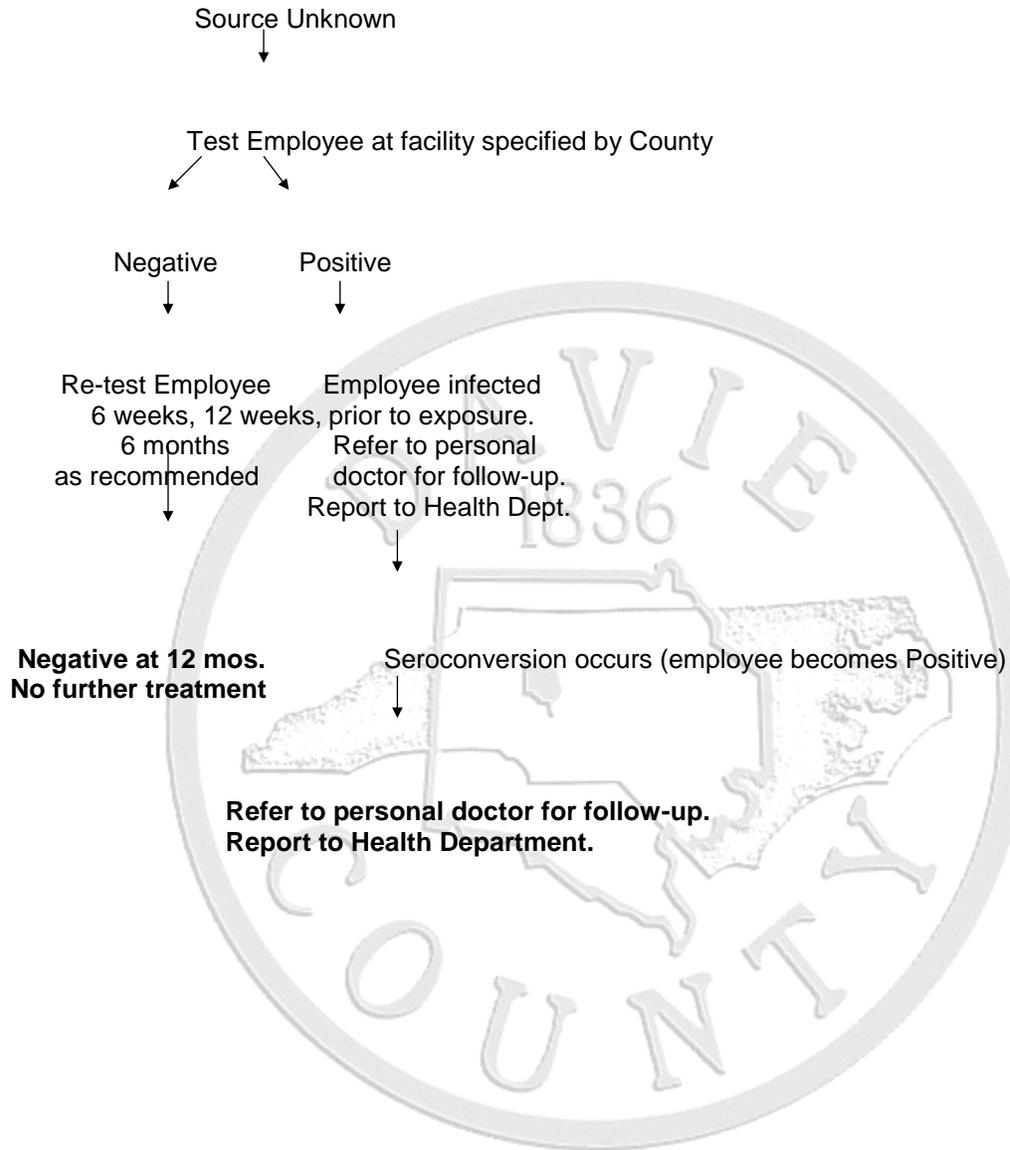
- ¹ Source increased liver enzymes and non-A non-B suspected Administer ISG 0.6 mL/kg.
- * Hepatitis B immune globulin (HBIG) dose 0.06 mL/kg intramuscularly.
- + Hepatitis B vaccine dose.
- ++ Adequate anti-HBs is > 10 milli-international units.
- [^] Persons receiving HBIG or hepatitis vaccines will have titers drawn based on the recommended standard at the time of exposure.

Source: Morbidity and Mortality Weekly Report, Vol. 40, No. RR-13, November 22, 1991. 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) US Department of Health and Human Services, Public Health Service, Centers for Disease Control, National Center for Infectious Diseases, Atlanta, Georgia 30333

BLOOD/BODY FLUID EXPOSURE FOLLOW UP FOR HIV



BLOOD/BODY FLUID EXPOSURE FOLLOW-UP FOR HIV



AIRBORNE EXPOSURE TO TB FOLLOW-UP PROCEDURE

PPD WITHIN 7 DAYS OF EXPOSURE AT HEALTH DEPARTMENT

NEGATIVE PPD



REPEAT PPD IN 12 WEEKS



IF NEGATIVE NO FURTHER FOLLOW UP

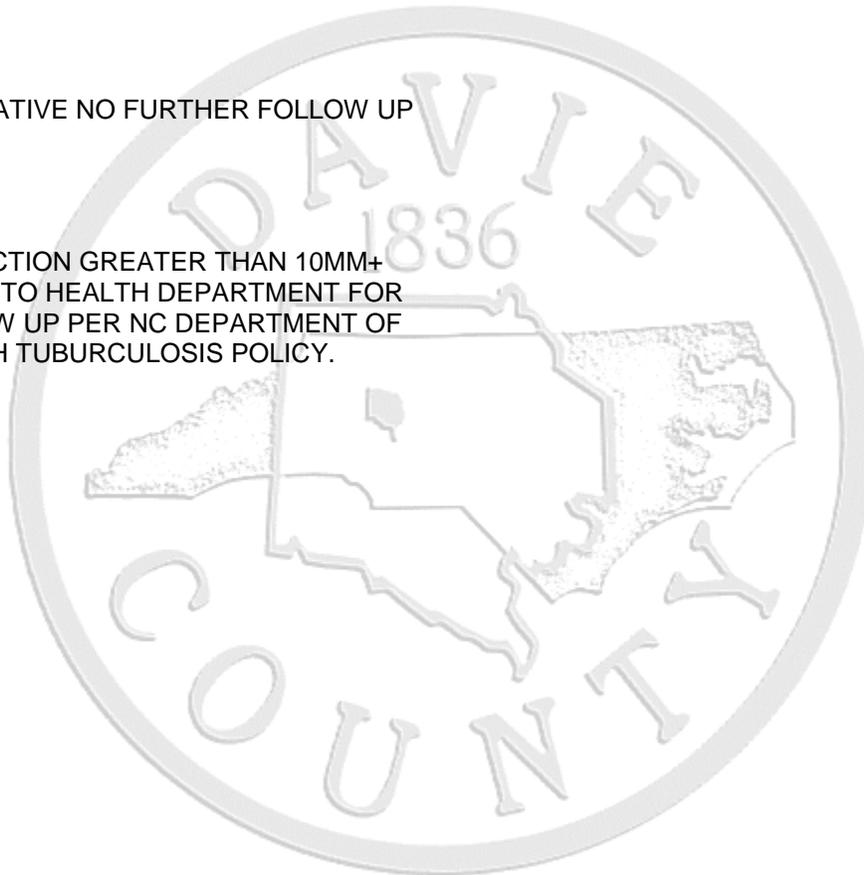


IF REACTION GREATER THAN 10MM+
REFER TO HEALTH DEPARTMENT FOR
FOLLOW UP PER NC DEPARTMENT OF
HEALTH TUBURCULOSIS POLICY.

POSITIVE PPD



REFER EMPLOYEE TO HEALTH
DEPARTMENT



XVI. RECORDKEEPING

- A. Health records will be maintained on category 1 and 2 employees. The records will include communicable disease histories, immunization records, and complete exposure records including test results, follow up reports and waivers. These records will be kept for the employee's duration of employment plus thirty years or 40 years from date of exposure, whichever occurs later. All records will be kept in the Personnel Department. Departments will maintain duplicate records to facilitate follow up of reported exposures.
- B. Medical records are strictly confidential and will be shared only with health care providers and administrative personnel directly involved in the employee's medical care and follow up.

XVII. TRAINING

- A. At the time of employment all employees with category I or category II positions will receive training on exposure control. The Exposure Control Plan will be reviewed. Each employee will satisfactorily demonstrate proper use of barrier precautions during their departmental orientation.
- B. The Risk Manager or designated departmental infection control officer will co-ordinate annual training on blood borne pathogens and Tuberculosis. Classes will be offered frequently to provide all employees with an opportunity to attend. Outlines and class objectives are in Appendix I.

XVIII. COMPLIANCE MONITORING

- A. All county agencies with category I and II workers will perform quarterly compliance monitoring.
- B. Compliance monitoring may be either through employee interviews or observations. Each department should develop a methodology, which reasonably accomplishes the goal. A sample instrument is in the appendix K.
- C. Compliance monitoring methodology must be approved by the Exposure Control Committee.
- D. The Risk Manager will maintain records of compliance monitoring provided by cognizant Departments.

IX. ANNUAL REVIEW OF EXPOSURE CONTROL POLICY

- A. The Safety Committee will set up an annual review, during the third quarter of the calendar year, with a representative from Emergency Services. Infection control experts from the Health Department, Sheriff's Office and outside agencies may be invited to participate. This review will require the involvement of non-managerial employees to:
 - 1. Evaluate technological changes that eliminate or reduce exposures to bloodborne pathogens.
 - 2. Evaluate potentially safer medical devices designed to eliminate or minimize occupational exposures.
- B. Changes will be made and a sign off from the committee members will go into the record.
 - 1. Revised Exposure Control Plans will be available in electronic and written form to insure wide distribution of the document.
 - 2. Changes will be covered during continuing education for all affected county personnel.

APPENDIX A

UNIVERSAL PRECAUTIONS

Universal precautions were developed by the Centers for Disease Control (CDC) to limit the transmission of HIV. The concept stresses that **ALL PATIENTS SHOULD BE ASSUMED TO BE INFECTIOUS FOR HIV AND OTHER BLOOD-BORNE PATHOGENS.** Universal precautions should be followed when personnel are exposed to blood, amniotic fluid, pericardial fluid, peritoneal fluid, synovial fluid, cerebrospinal fluid, semen, vaginal secretions, feces, urine, vomitus, sputum, saliva and any other body fluid visibly contaminated with blood.

Exposure means any contact with blood or body fluids (listed above) through percutaneous inoculation (needle stick injury or cut from contaminated material), contact with an open wound, non-intact skin or mucous membrane while on the job.

These are the guidelines of universal precautions.

1. Wash hands between patients. (Waterless hand cleaner is available in each work area where water for hand washing is not present.)
2. Wear gloves when coming into contact with blood or body fluids of any patient.
3. Wash hands immediately after removing gloves. (Waterless hand cleaner is available in the work area.)
4. Wash hands if they become contaminated with blood or other body fluids.
5. Do not recap, bend, cut or break needles, but place them into a puncture-proof container. Containers shall be labeled with a BIOHAZARD tag or symbol. Replace the container when it reaches the maximum fill level. (Containers are in each work area for this purpose.)
6. Wear gowns if soiling of your clothes with blood or body fluids is likely. Water-impermeable aprons are available when heavy soiling is anticipated.
7. Use other protective barriers (e.g., masks, goggles, glasses, bag valve masks, etc.) appropriate for the procedure being performed and the type of exposure anticipated.
8. Put damp or dry linen in regular linen bags. All potentially contaminated linen shall be double bagged in a plastic bags marked with the BIOHAZARD tag or symbol. Used linen should be bagged immediately in the area where it is generated. Handle soiled linen as little as possible. Then put the plastic bags into a regular linen bag and send it to the laundry.
9. Trash is to be bagged and discarded. EMS should discard liquid waste at the hospital.
10. Report any exposure (i.e., needle stick, splash of fluid into mucous membrane, etc.) to your supervisor.
11. Personal protective equipment and resuscitation equipment will be available in all work areas where there use is anticipated.

APPENDIX B
WAIVER FOR HEPATITIS B VACCINE

I understand that due to my occupational exposure to blood and other potentially infectious materials, I may be at risk of acquiring hepatitis-B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis-B vaccine, at no charge to myself. However, I decline hepatitis-B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. In the future, if I continue to have occupational exposure to blood and other potentially infectious materials and I decide to be vaccinated with hepatitis-B vaccine, I can receive the vaccination series at no charge to me.²

Signature of Employee

Date

Signature of Witness

Date

Note: Review Appendix J, Important Information about Hepatitis B and Hepatitis B Vaccine with the employee.

²Bloodborne Pathogens 29 CFR 1910.1030 Appendix "A" with Amendments as of September 1, 1994.

APPENDIX C
REPORT OF EXPOSURE

Employee _____

Department _____

Date of Exposure _____ Time of Exposure _____ am/pm

Type of exposure: Via what route? (blood, body fluid or secretion)

Describe how the incident occurred. (include activity taking place).

Conditions of exposure: (location, confined space)

Name of the source patient _____

Address and telephone number of the patient _____

Receiving hospital of the source patient _____

Preliminary instructions to the employee _____

Follow up protocol followed _____

Names of other potentially exposed people involved in this incident.

Name _____ Home Tel.# _____ Agency _____

APPENDIX D

**REQUIRED PERSONAL PROTECTIVE EQUIPMENT FOR
WORKER PROTECTION AGAINST HIV AND HBV TRANSMISSION
IN PRE-HOSPITAL SETTINGS³**

TASK OR ACTIVITY	DISPOSABLE			PROTECTIVE EYE WEAR
	GLOVES ^B	GOWN	MASK	
Bleeding control with spurting blood	Yes	Yes	Yes	Yes
Bleeding control with minimal bleeding	Yes	No	No	No
Emergency Childbirth	Yes	Yes	No	Yes ^A
Blood Drawing	Yes	No	No	No
Starting an IV Line	Yes	No	No	No
Placing an Advanced Airway	Yes	No	No ^C	Yes
Suctioning or manually cleaning airway equipment	Yes	No	No	No ^C
Handling/cleaning Equipment with Microbial Contamination	Yes	No ^D	No	No
Taking Blood Pressure	No	No	No	No
Taking a Temperature	No	No	No	No
Giving an Injection	Yes	No	No	No

^A if splashing is likely.

^B gloves should be worn under the following conditions: if the health care worker has cuts, scratches or non-intact skin, if the patient is uncooperative, when performing finger or heel sticks on children, and during training.

^C unless splashing is likely.

^D unless soiling of clothing is likely during clean up.

Advanced Airway

ET endotracheal

EOA esophageal obturator

LMA laryngeal mask airway

King supraglottic airways

Combitube blind insertion airway device

³Guidelines for Prevention of HIV and HBV to Health Care and Public Safety Workers U. S. Department of Health and Human Services, February 1989.

APPENDIX E

**WAIVER TO SUBMIT TO FOLLOW-UP PROCEDURES AFTER
POSSIBLE EXPOSURE TO INFECTIOUS DISEASE**

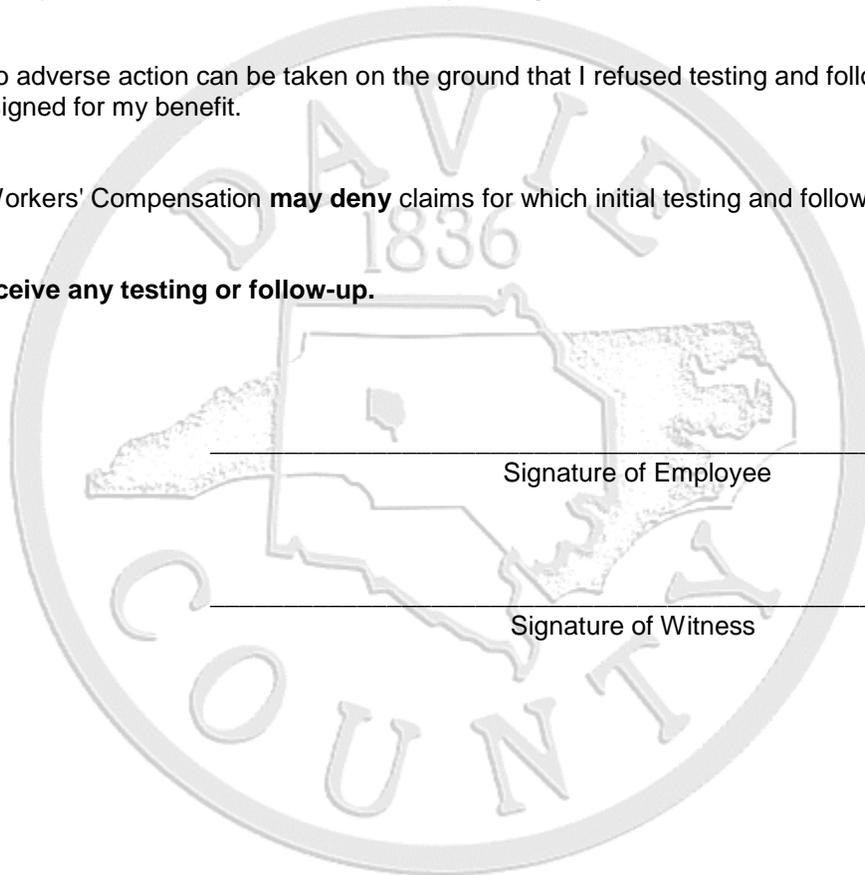
I, _____, have had explained to me the need for follow-up testing to evaluate my exposure to _____. I understand that the testing is medically indicated.

I have had a chance to ask questions which were answered to my satisfaction and I believe that I understand the risks of my possible exposure and the benefits of follow-up testing.

I understand that no adverse action can be taken on the ground that I refused testing and follow-up since the procedures are designed for my benefit.

I understand that Workers' Compensation **may deny** claims for which initial testing and follow-up were refused.

I choose not to receive any testing or follow-up.



Signature of Employee

Date

Signature of Witness

Date

Type of exposure: _____

Date of exposure: _____

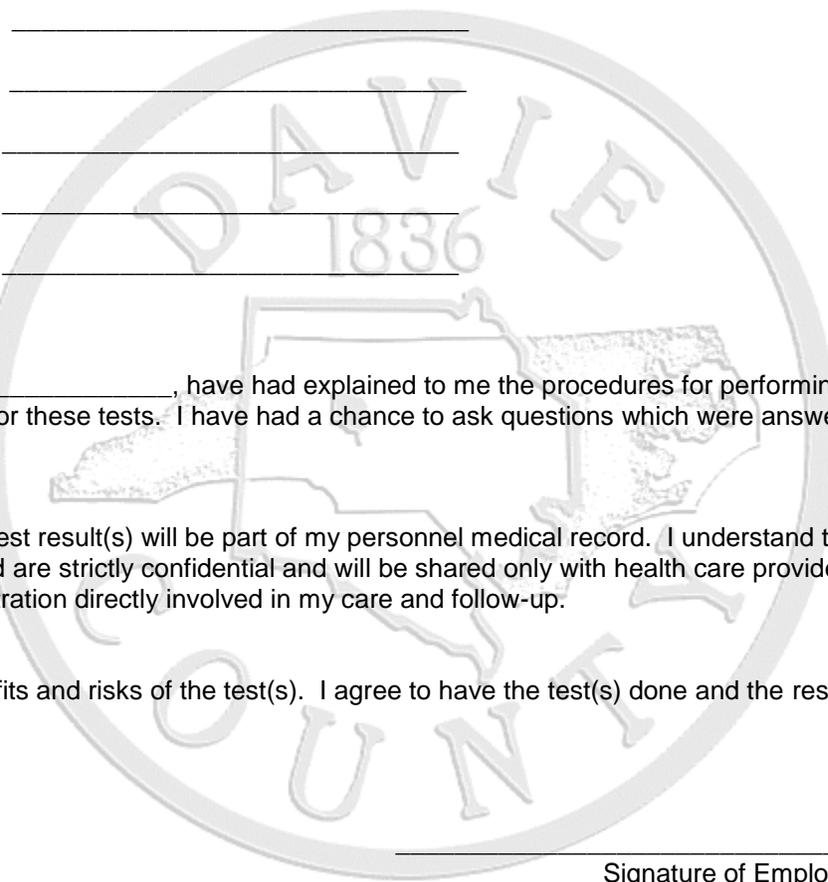
APPENDIX F

**INFORMED CONSENT TO PERFORM TESTS
AND TO RECORD TEST RESULTS**

Name of Employee _____

Date _____

Tests to be performed: _____



I, _____, have had explained to me the procedures for performing the above tests. I understand the need for these tests. I have had a chance to ask questions which were answered to my satisfaction.

I understand that the test result(s) will be part of my personnel medical record. I understand that my test results and my medical record are strictly confidential and will be shared only with health care providers, personnel Directors and administration directly involved in my care and follow-up.

I understand the benefits and risks of the test(s). I agree to have the test(s) done and the results recorded in my record.

Signature of Employee

Date

Signature of Witness

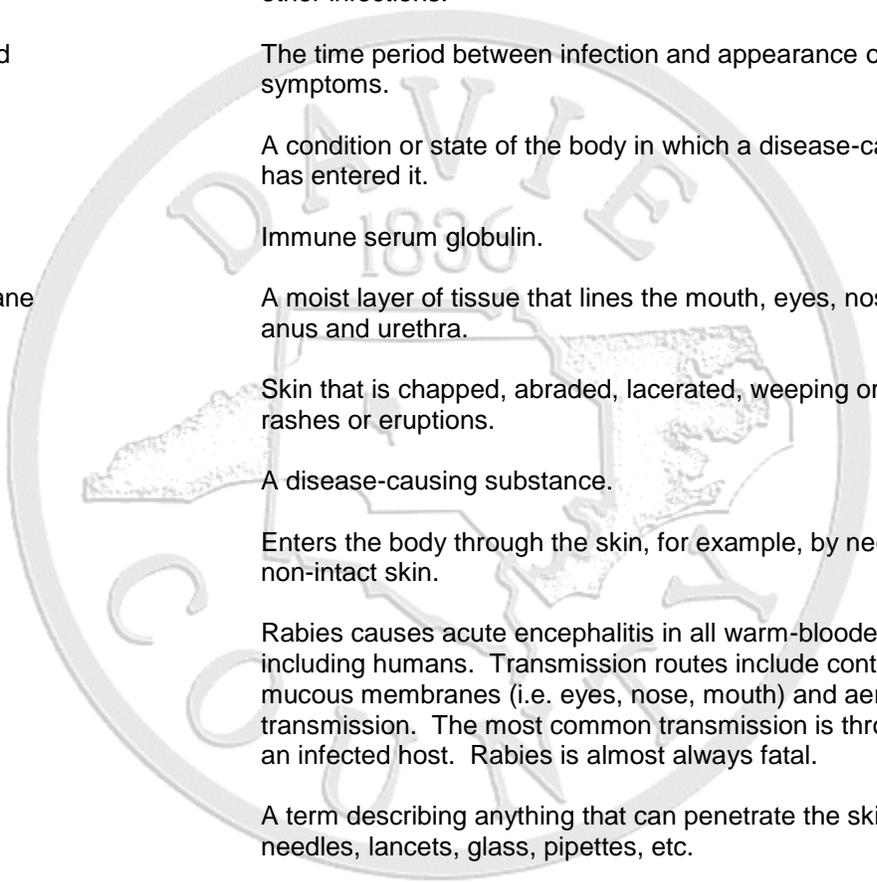
Date



APPENDIX G

GLOSSARY

Acute (disease)	Of short duration, usually with a sudden onset, and sometimes severe.
Antibody	Substance that a person's immune system develops to help fight infection.
Antibody positive	The result of a test or series of tests to detect antibodies in the blood. A positive result means that antibodies are present.
Antigen	Substance that is foreign to the body. An antigen causes the immune system to form antibodies to fight the antigen.
Asymptomatic	Having a disease-causing agent in the body but showing no outward signs of disease.
Asymptomatic HIV Seropositive	The condition of testing positive for HIV antibody without showing any symptoms of disease. A person who is HIV- positive, even without symptoms is capable of transmitting the virus to others.
Body fluids	Fluids that have been listed by the CDC as linked to the transmission of HIV or HBV or to which universal precautions apply. A few examples of these fluids are semen, blood, vaginal secretions, and breast milk.
Carrier	A person who apparently is healthy, but who is infected with some disease-causing organism (such as HIV or HBV) that can be transmitted to another person.
CDC	The Center for Disease Control is a federal health agency that is a branch of the US Department of Health and Human Services. The CDC provides national health and safety guidelines and statistical data on HIV and other diseases.
Chronic (disease)	Lasting a long time, or recurring often.
Decontamination	Removing disease-causing agents, thus making the immediate environment or objects safe to handle.
Diagnosis	Identifying a disease by its signs, symptoms, course, and laboratory findings.
Exposure	The act or condition of coming into contact with, but not necessarily being infected by, a disease-causing agent.
HB _s AB	Hepatitis B surface antibody. Also known as Anti-HB _s . Laboratory test verifying immunity after vaccination.
HB _s AG	Hepatitis B surface antigen. Laboratory test that, when positive, indicates the patient is infectious
HBIG	Hepatitis B immune globulin, which is a preparation that provides some temporary protection following exposure to HBV if given within 7 days after exposure.



HBV	Hepatitis B, a viral infection that affects the liver. The effects of the disease on the liver can range from mild, even unapparent, to severe, to fatal.
Health care worker	An employee including but not limited to nurses, physicians, optometrists, laboratory technicians, phlebotomists, paramedics, emergency medical technicians, medical examiners, housekeepers, laundry workers and others whose work may involve direct contact with body fluids from living or dead individuals.
HIV	Human immunodeficiency virus, the cause of AIDS (advanced HIV).
Immune system	A body system that helps resist disease-causing germs, viruses or other infections.
Incubation period	The time period between infection and appearance of disease symptoms.
Infection	A condition or state of the body in which a disease-causing agent has entered it.
ISG	Immune serum globulin.
Mucous membrane	A moist layer of tissue that lines the mouth, eyes, nostrils, vagina, anus and urethra.
Non-intact skin	Skin that is chapped, abraded, lacerated, weeping or that has rashes or eruptions.
Pathogen	A disease-causing substance.
Percutaneous	Enters the body through the skin, for example, by needle-stick or on non-intact skin.
Rabies	Rabies causes acute encephalitis in all warm-blooded hosts, including humans. Transmission routes include contamination of mucous membranes (i.e. eyes, nose, mouth) and aerosol transmission. The most common transmission is through the bite of an infected host. Rabies is almost always fatal.
Sharps	A term describing anything that can penetrate the skin such as needles, lancets, glass, pipettes, etc.
Tuberculosis (TB)	TB is an airborne communicable disease caused by mycobacterium tuberculosis or the tubercle bacillus. Transmission may occur from inhaling tiny airborne particles expelled by a person who has infectious TB for a period of several hours.
Vaccine	A substance that produces or increases immunity and protection against a particular disease.
Virus	An organism that causes disease.

APPENDIX H

TYPES OF EXPOSURES **Event or Job-Related Task**

Possible Blood or Body Fluid Exposure

- Cuts from falls
- Cuts from machinery
- Emptying trash - possible exposure to bloody articles
- Paper cuts
- Cleaning bathrooms - possible exposure to urine, body fluids
- Picking up litter - possible exposure to blood or body fluids
- Handling objects contaminated with blood or body fluids. Examples: swabs for Pap smears
- Cleaning up urine, feces or vomitus
- Drawing blood samples
- Carrying tubes of blood
- Starting IVs at the scene of an accident or in an ambulance
- Performing hemorrhage control
- Suctioning patients who may have blood in their airways
- CPR on trauma patients
- Delivering babies
- Giving SQ injections
- Doing Dextrostix
- Cleaning equipment contaminated with blood or body fluids
- Disposing of contaminated needles
- Sustaining cuts at wreck scenes where surfaces could be contaminated with other people's blood
- Handling dirty linen
- Needle stick injuries
- Touching diaphoretic patients
- Dealing with combative patients who would intentionally throw urine or feces at employee
- Being attacked by patient and scratched or cut
- Working with equipment that was not cleaned properly by another crew
- Splinters from bloody backboards
- Transporting dirty linen from the hospital to the ambulance bases
- Having to wear dirty uniforms until worker can change into a clean one
- Accidental needle sticks sustained while treating a patient, i.e. an unseen needle in the patient's clothing or on the furniture or floor
- Transfer of dirty uniforms to the residence for cleaning
- Employee failure to wear gloves when treating patients
- Tears in gloves
- Poor hand washing techniques
- Lax hand washing, i.e. not washing hands after every patient contact
- Employees working while sick with colds or other minor illnesses
- Failure to use protective equipment like a bag valve mask when resuscitating a patient
- Unknowingly treating HIV or HBV infected patients being transferred from a nursing home or hospital to another facility
- Giving first aid
- Animal bites

Possible Indirect Transmission of Communicable Disease

- Using the telephone
- Handling objects touched by others
- Handling money

Possible Exposure to Airborne Diseases

- Being around sickly or recovering people
 - Exposure through droplet spread of infection
 - Working closely with others
-

APPENDIX I
TRAINING OUTLINES

BLOODBORNE PATHOGENS

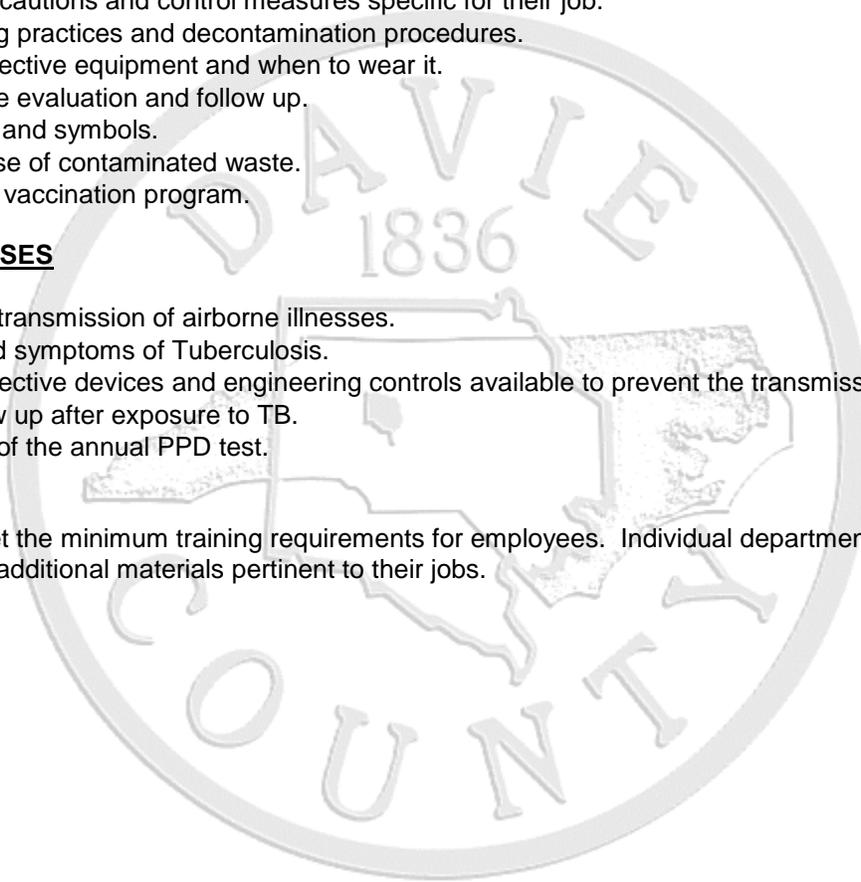
At the completion of the session or sessions the participant will have knowledge of:

- The OSHA standard for blood borne pathogens.
- Epidemiology and symptomatology of blood borne diseases.
- Modes of transmission of blood borne diseases.
- The Davie County Exposure Control Plan.
- Which procedures might cause exposure to blood or body fluids.
- Universal Precautions and control measures specific for their job.
- Housekeeping practices and decontamination procedures.
- Personal protective equipment and when to wear it.
- Post exposure evaluation and follow up.
- Hazard signs and symbols.
- How to dispose of contaminated waste.
- The Hepatitis vaccination program.

AIRBORNE DISEASES

- The mode of transmission of airborne illnesses.
- The signs and symptoms of Tuberculosis.
- Personal protective devices and engineering controls available to prevent the transmission on TB.
- Medical follow up after exposure to TB.
- The purpose of the annual PPD test.

These outlines meet the minimum training requirements for employees. Individual departments may augment these outlines with additional materials pertinent to their jobs.



APPENDIX J IMPORTANT INFORMATION ABOUT HEPATITIS B AND HEPATITIS B VACCINE⁴

WHAT IS HEPATITIS B?

Hepatitis B is an infection of the liver caused by the hepatitis B virus (HBV). The term "viral hepatitis" is often used for and may include hepatitis B and other similar diseases which affect the liver but are caused by different viruses.

Acute hepatitis generally begins with mild symptoms that may or may not become severe. These symptoms may include loss of appetite, a vague feeling of oncoming illness, extreme tiredness, nausea, vomiting, stomach pain, dark urine, and jaundice (yellow eyes and skin). Skin rashes and joint pain can also occur.

In the United States about 300,000 persons, mostly young adults, catch Hepatitis B each year. About one-quarter will develop jaundice, and more than 10,000 will need to be hospitalized. About 350-400 people die each year from severe acute hepatitis B. Between 6 and 10 of every 100 young adults who catch hepatitis B become chronic carriers (have HBV in their blood for 6 or more months) and may be able to spread the infection to others for a long period of time. Infants who catch hepatitis B are more likely to become carriers than adults. About one-fourth of these carriers go on to develop a disease called "chronic active hepatitis." Chronic active hepatitis often causes cirrhosis of the liver (liver destruction) and death due to liver failure. In addition, HBV carriers are much more likely than others to get cancer of the liver. An estimated 4,000 persons die from hepatitis B-related cirrhosis each year in the United States and more than 1,000 die from hepatitis b-related liver cancer.

The risk of catching hepatitis is higher in certain groups of people because of their occupation, lifestyle, or environment. Because of the risks of serious problems associated with hepatitis B infection, vaccination to help prevent infections is recommended for these groups.

HEPATITIS B VACCINE:

Hepatitis B vaccine is made two ways. Plasma-derived vaccine is made from portions of HBV particles that have been purified from the blood of carriers. The method used to prepare the plasma-derived hepatitis vaccine kills all types of viruses found in human blood, including the virus that causes Acquired Immunodeficiency Syndrome (AIDS). The recombinant vaccine is made from common baker's yeast cells through genetic engineering. The yeast-derived vaccine does not contain human blood products. The vaccine is given by injection on three separate dates. The first two doses should be given one month apart, and the third dose, 5 months after the second. After three doses, the hepatitis B vaccine is 85%-95% effective in preventing hepatitis B infection in those who received vaccine. The protection for normal adults and children given vaccine properly lasts at least 5 years. Booster doses of vaccine are not routinely recommended at the present time.

WHO SHOULD GET HEPATITIS B VACCINE?

The vaccine is recommended for persons at high risk of catching HBV infection who are or may be unprotected. These groups include:

- **Health care workers.** Health care workers who are exposed to blood or blood products or who may get accidental needle sticks should be vaccinated.
- **Clients and staff of institutions for the mentally retarded.** The special behavioral and medical problems of the retarded make this a high-risk setting. The risk in these institutions is related to contact with blood and also with bites and contact with skin lesions and other body fluids that contain HBV. Clients and staff of group and foster homes where a carrier is known to be a parent should also be vaccinated.
- **Other contacts of HBV carriers.** Vaccine use should be considered in classroom and other day settings where de-institutionalized mentally retarded HBV carriers behave aggressively or have special medical problems that may expose contacts to their blood and body secretions. Teachers and aides have been shown to be at significant risk in these settings. Other persons who have casual contact with carriers at schools and offices are at little risk of catching HBV infection and vaccine is not recommended for them.

⁴ Department of Human Resources Immunization Program CDC Reprint - Hepatitis B

- **Hemodialysis patients.** Although the hepatitis B vaccine is less effective in these patients, it should still be offered to all hemodialysis patients.
- **Homosexually active men.**
- **Users of unlawful injectable drugs.** Sharing needles is an extremely high-risk activity for transmitting hepatitis B.
- **Recipients of certain blood products.** Persons such as hemophiliacs who receive certain products to help their blood clot are at high risk of infection.
- **Household and sexual contacts of HBV carriers.** When HBV carriers are identified, household and sexual contacts should be offered vaccine.
- **Special populations from areas with high rates of hepatitis B.** These groups include Alaskan natives, native Pacific islanders, and immigrants and refugees from eastern Asia and sub-Saharan Africa.

VACCINE ALSO SHOULD BE CONSIDERED FOR:

- Long term inmates of prisons. The risks of prisoners catching HBV infection may be due to use of unlawful injectable drugs.
- Heterosexuals who come in for treatment of sexually transmitted diseases and who have histories of sexual activity with multiple sexual partners.
- Persons who plan to travel to areas outside the United States that have high rates of hepatitis B infection, stay in those areas for more than 6 months, and have close contact with the local population; and, persons traveling for shorter duration who may have sexual contact with local persons in areas where HBV infection is common. Persons traveling abroad who will perform medical procedures in areas where HBV infection is common are at very high risk.

ADDITIONAL VACCINES:

Hepatitis B vaccine is also recommended as part of the therapy used to prevent hepatitis B infection after exposure to HBV. Post exposure use of hepatitis B vaccine is recommended for the following persons: (1) infants born to mothers who have a positive blood test for hepatitis B surface antigen (HBsAg); and, (2) persons having accidents involving HBsAg-positive blood where there is entry through the skin or a mucous membrane. In addition, vaccination may be recommended for persons having sexual contact with someone who has a positive blood test for HBsAg. The hepatitis B vaccine series should be started at the same time as other therapy, primarily, treatment with hepatitis B immune globulin (HBIG).

POSSIBLE SIDE EFFECTS FROM THE VACCINE:

The most common side effect is soreness at the site of injection. Other illnesses, such as neurologic reactions, have been reported after vaccine is given but hepatitis B vaccine is not believed to be the cause of these illnesses. As with any drug or vaccine, there is a rare possibility that allergic or more serious reactions or even death could occur. No deaths, however, have been reported in persons who have received this vaccine. Giving hepatitis B vaccine to persons who are already immune or to carriers will not increase the risk of side effects.

PREGNANCY:

No information is available about the safety of the vaccine for unborn babies; however, because the vaccine contains only particles that do not cause hepatitis B infection, there should be no risk. In contrast, if a pregnant woman gets a hepatitis B infection, this may cause severe disease in the mother and chronic infection in the newborn baby. Therefore, pregnant women who are otherwise eligible can be given hepatitis B vaccine.

QUESTIONS:

If you have any questions about hepatitis B or hepatitis B vaccine, please ask us now or call your doctor or health department before you sign this form.

REACTIONS:

If the person who received the vaccine gets sick and visits a doctor, hospital, or clinic during the 4 weeks after receiving the vaccine, please report it.

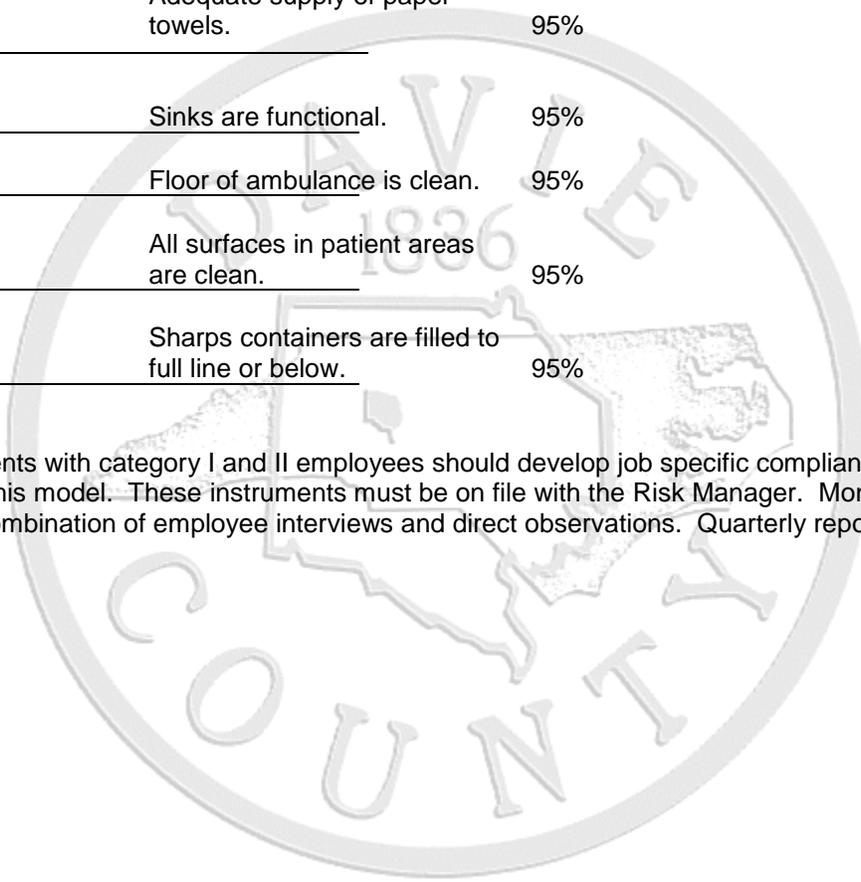
APPENDIX K

SAMPLE COMPLIANCE MONITORING INSTRUMENT

Department: _____ Date: _____

Number of Observations	Indicator	TFE	%Yes	%No
_____	Soap dispensers are filled with approved hand washing agent.	95%		
_____	Soap dispensers are working.	95%		
_____	Adequate supply of paper towels.	95%		
_____	Sinks are functional.	95%		
_____	Floor of ambulance is clean.	95%		
_____	All surfaces in patient areas are clean.	95%		
_____	Sharps containers are filled to full line or below.	95%		

Individual departments with category I and II employees should develop job specific compliance monitoring instruments using this model. These instruments must be on file with the Risk Manager. Monitoring will be done quarterly using a combination of employee interviews and direct observations. Quarterly reports are forwarded to the Risk Manager.



APPENDIX L

DAVIE COUNTY POST-EXPOSURE CHECK LIST

Employee Name _____ Social Security Number _____

Department _____ Date of Exposure _____

Source Patient Name _____

Advised of Source Patient's HIV and HB_s AG

HIV TESTING OFFER

..... Offered HIV testing

..... Employee's signed consent for HIV serial testing; at baseline recommended for type of exposure. Tests may be performed at initial exposure, 3 months, 6 months, and/or 12 months as recommended.

..... Employee signed waiver for HIV testing.

HEPATITIS B FOLLOW-UP

..... Employee has completed initial HBV Vaccination Series

..... HB_sAB Titer done on _____

Immune Status _____

..... If indicated; HBIG given on _____,

ISG given on _____,

or Hepatavax given on _____.

..... HBV vaccine or other treatment declined on _____.

OTHER FOLLOW-UP

..... Employee received counseling appropriate to exposure risks.

..... Employee offered _____
treatment for possible exposure to _____.

..... Employee waived recommended treatment and follow up.

OTHER COMMENTS:

Signature of Designated Infection Control Monitor Following Case

APPENDIX M

WAIVER FOR RABIES VACCINE

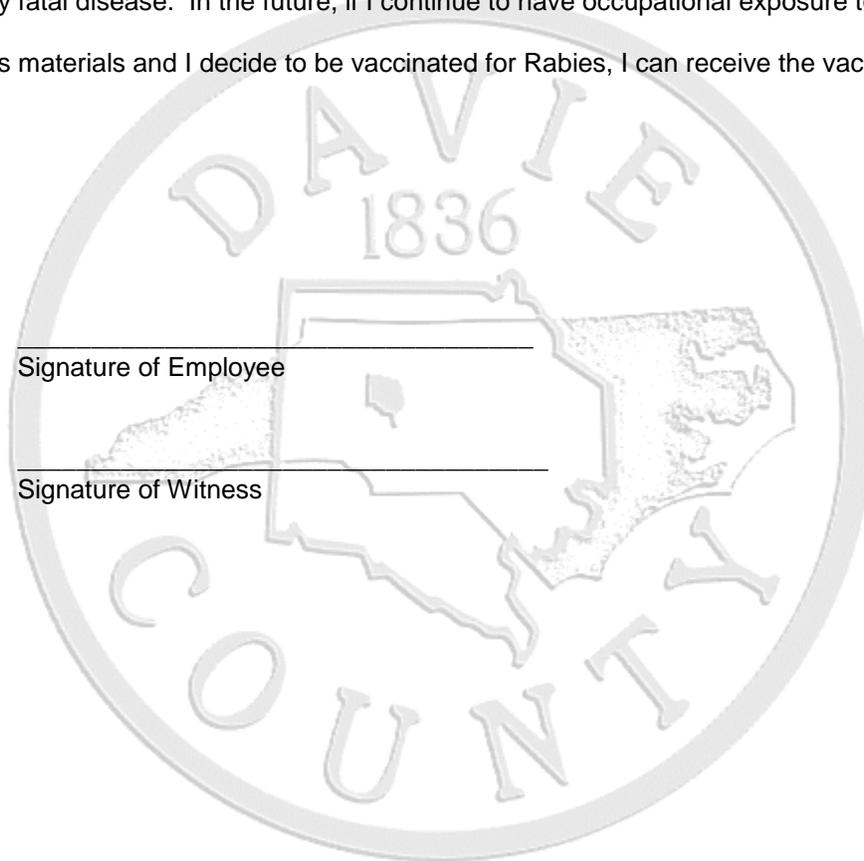
I understand that due to my occupational exposure to animals and other potentially infectious materials, I may be at risk of acquiring Rabies. I further understand that once I contract Rabies that it is most always fatal. I have been given the opportunity to be vaccinated to prevent Rabies, at no charge to myself. However, I decline the Rabies vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring Rabies, a potentially fatal disease. In the future, if I continue to have occupational exposure to animals and other potentially infectious materials and I decide to be vaccinated for Rabies, I can receive the vaccination series at no charge to me.

Signature of Employee

Date

Signature of Witness

Date



APPENDIX N

EMERGENCY SERVICES RESPIRATORY PROTECTION PLAN

- I. Employees are issued a HEPA mask and carry the mask with them during working hours.**
 - A. Indications for the use of HEPA masks are covered in the Exposure Control Plan and in the Safety Section of the EMS Division Standard Operating Guidelines.
 - B. These masks are disposable and are replaced after each use.

- II. Fit testing for new employees is done during department orientation.**
 - A. Employees learn about the HEPA masks stocked by the county.
 - B. The trainer will demonstrate how to properly fit and adjust the mask.
 - C. Qualitative fit testing is utilized to determine if the employee has a tight seal.
 - D. Documentation is kept on the results of each test and the type and size of the mask suited for each employee.

- III. Repeat fit testing is indicated when employees gain or lose a significant amount of weight or when new products are stocked.**

- IV. Annual Evaluation**
 - A. Existing employees will fill out a respiratory questionnaire annually.
 - B. The Medical Director will review and sign off on questionnaires.
 - 1. Employees with satisfactory results do not need further follow up.
 - 2. Those employees identified as having risk factors for HEPA masks will be referred to the county's nurse practitioner for evaluation.
 - C. All questionnaires will be maintained in the confidential medical file for employees for the duration of their employment plus thirty years.

