Barren River
DISTRICT HEALTH DEPARTMENT

Barren, Butler, Edmonson, Hart, Logan,
Metcalfe, Simpson, and Warren Counties

Bloodborne Pathogen Exposure Control Plan 16th edition

PROJECT PUBLIC HEALTH READY

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BARREN RIVER DISTRICT HEALTH DEPARTMENT
BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN
16th ed.

Plan approved by Doug B. Date 7.22.16
Title

Plan approved by Date 7-22-16
Title Director of BRDHD

Record of Annual Review and Updates:

Reviewer(s)	Date	Reviewed	Revised	Page(s)/Section(s) if Revised
Teresa Casey, RN, BSN	7/12/16	Yes	Yes	Section VIII Segment I
Teresa Casey, RN, BSN	7/12/16	Yes	Yes	Pathogen Exposure Checklist #9
Teresa Casey, RN, BSN	07/15/16	Yes	Yes	Physician evaluation form

The BRDHD solicits input from non-managerial employees on appropriate engineering controls and medical devices for effectiveness/usefulness to reduce the likelihood of needlestick/sharp injury.
Employee input for effectiveness / usefulness of engineering controls / medical devises will be **evaluated annually by the Preventive / Clinical Care Coordinator**.

Date	Engineering Controls/ Medical Device	Utilized In Clinic Yes/No	Evaluated Mechanics Yes/No	Accepted Device Yes/No	Signature of Preventive/Clinical Care Coordinator

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I. INTRODUCTION

Barren River District Health Department has prepared the employee Bloodborne Pathogen (BBP) Exposure Control Plan in accordance Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard-29 CFR 1910.1030 and based on Centers for Disease Control and Prevention (CDC) recommendations. This plan applies to all work operations where the employee may be exposed to blood or other potentially infectious materials during day-to-day implementation of duties.

The objective of the Bloodborne Pathogen Exposure Control Plan is to inform employees of the OSHA and CDC standards; the modes of transmission of human immunodeficiency virus (HIV), hepatitis B virus (HBV), and hepatitis C virus (HCV); engineering and safe work practices; the proper use of personal protective equipment; the availability of hepatitis B vaccine; and on exposure management procedures and follow-up. This plan meets the requirements of the BBP standards by outlining the steps in place to protect staff.

The plan is part of the overall employee health and safety program of the BRDHD with the Human Resource Manager serving as program coordinator.

- The Human Resource Manager is ultimately responsible for carrying out the protection and reporting procedures in this plan.
- Initial staff training on the plan is the responsibility of the Human Resource Manager or his/her designees.
- Annual training/updates are the responsibility of the Human Resource Manager along with the Communicable Disease Team.
- Nurse Supervisors are ultimately responsible for ensuring that methods of compliance are in place in each of their facilities. These methods of compliance include:
    - Universal Precautions
    - Compliance and monitoring of practices
    - Engineering and work practice controls
    - Safe work practices
    - Personal protective equipment
    - Proper management of events involving gross contamination
    - Housekeeping measures

A copy of the plan and the OSHA Standards are available to employees and can be requested from the Human Resource Manager, Director of Nursing, Communicable Disease Team, or Nurse Supervisor in each county office.

The BRDHD plan will be evaluated and updated on an ongoing basis and at least annually as required by OSHA. An important part of keeping this plan relevant to our setting is getting employee feedback on the procedures in the policy. Employees are encouraged to confer with the Human Resource Manager on questions about this policy and to offer suggestions on how to improve the BBP Exposure Control Plan.

II. REVIEW, REVISION, AND AVAILABILITY OF THE BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

A. The Bloodborne Pathogen Plan is reviewed on an annual basis and updated as needed. At the time of the review, evaluation is made of the exposure determinations, available PPE, new technologies, revisions in recommendations and regulations, and current research on bloodborne pathogens.

B. The Bloodborne Pathogen Plan is available in all BRDHD sites. It is stored in an area that is **available to employees during all hours of operation**. A copy of the plan is provided to any employee who requests a copy. The copy is provided within five days.

C. A copy of the OSHA Bloodborne Pathogen Standard (including the revision to the standard published in 2001) is included with the copy of the Bloodborne Pathogen Plan and is stored in an area that is **available to employees during all hours of operation**. A copy of the standard is provided to any employee who requests a copy of the plan. The copy is provided within five business days of receiving the request.

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III. ANNUAL BLOODBORNE PATHOGEN TRAINING

The orientation plan for all employees includes a review of the OSHA Bloodborne Pathogen Standard; education about the bloodborne pathogen plan, primary bloodborne pathogens (HBV, HCV, and HIV); an explanation of standard precautions; proper use of personal protective equipment; education about the need for prompt reporting and follow-up of exposures to bloodborne pathogens; and a discussion of the hepatitis B vaccine program. The training will be provided via a web-course module on Training Finder Realtime Affiliate Integrated Network (TRAIN).

New employees will be required to complete the training within 60 days of employment. If a new employee's training occurs within 60 days of the agency's annual training, the employee will not be required to repeat the training until the following year.

All employees will then be required to have an annual review of these topics via the web-course module on Training Finder Realtime Affiliate Integrated Network (TRAIN).

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IV. EXPOSURE DETERMINATION

Employees of the Barren River District Health Department are grouped into one of three categories of risk of exposure to bloodborne pathogens in the occupational setting. Risk is assigned without consideration of the use of personal protective equipment or safety devices. Personnel are assigned to the category most appropriate to the part of their job duties that pose the highest risk of exposure to bloodborne pathogens. Assignment to risk category is determined at the time an individual is employed in a particular placement and is reevaluated each time work related responsibilities are changed. As a part of annual review of the plan, assignment of risk is reconsidered. Education records are maintained for a period of at least three years.

In all three classifications, the individual responsibilities of each employee must still be reviewed to determine the potential for exposure to bloodborne pathogens.

A. The first category includes personnel with a **High Risk** of occupationally acquired infection with a bloodborne pathogen because of frequent or routine contact with sharps or potentially infectious body fluids.

Tasks performed routinely by personnel in this category which place them at risk of exposure to bloodborne pathogens include: venipuncture, heel and finger sticks, injections, laboratory procedures, handling of specimens, gynecological examinations and procedures, dental examinations and procedures, laceration repair, incision and drainage of abscess, foreign body removal, wound treatments and dressings, patient examinations, and contact with contaminated equipment.

Personnel in this category include:

Director of Nursing
Nurse Administrator
Family Nurse Practitioner
Physician Assistant
Local Health Nurse
Local Health Nurse IV/Team Leader
Local Health Nurse Specialist
Local Health Nurse Home Health
Nurse Program Manager
Nurse Supervisor
Public Health Nurse
Licensed Practical Nurse
Dental Hygienist
Epidemiologist
Senior Epidemiologist
Public Health Clinician
Health Officer
Medical Director
Laboratory Supervisor
Medical Technologist
Laboratory Technician
Laboratory Assistant
Environmental Laboratory Analyst
Environmental Laboratory Supervisor
Environmental Laboratory Director

B. The second category is employees with a **Low Risk** of occupational exposure to bloodborne pathogens. Assigned job activities pose a small but real risk of contact with sharps, contaminated equipment, or potentially infectious body fluids although exposure is not routine.

Tasks, performed by personnel in this category, which may place them at risk of exposure to bloodborne pathogens include: housekeeping, handling of waste disposal containers, inspection of sub-surface sewage disposal systems, environmental nuisance follow-up, cleaning exam rooms, diaper changes, and transport of specimens for laboratory or environmental testing. This category includes:

Adult Day Care Center Coordinator
Adult Day Care Center Assistant Coordinator
Homemaker
Adult Day Care Center Service Aide
Director of Nutrition Services Nutrition Services Coordinator
Nutritionist
Clinical Nutritionist

Community Outreach Worker
Resource Person
Senior Resource Person
Senior Community Outreach Worker
Clinical Assistant
Senior Clinical Assistant
Family Support Worker/Home Visitor
Sr. Family Support Worker/Home Visitor
Home Health Aide Trainee
Home Health Aide
Senior Home Health Aide
Social Services Coordinator
Social Worker
Senior Social Worker
Director of Social Services
Senior Clinical Nutritionist
Audiologist
X-ray Technician
Early Intervention Specialist
Health Educator
Health Education Coordinator
Health Education Director
Sr. Support Services Associate
Support Services Supervisor
Environmental Health Director
Environmental Health Supervisor
Senior Health Environmentalist
Health Environmentalist
Maintenance Supervisor
Maintenance Technician
Janitor
Maintenance Person

C. Personnel in the third category have **No Risk** of occupational exposure to bloodborne pathogens related to their assigned responsibilities. Personnel in this category are not exposed to blood, body fluids, or contaminated sharps or medical equipment as a routine or occasional part of their work responsibilities. Education of personnel in this category includes education about the need to immediately report unexpected and accidental contact with potentially contaminated items or substances on the job. This category includes:

Public Health Director
Human Resource Assistant
Human Resource Manager
Administrative Assistant
Administrative Specialist
Administrative Services Manager
Director of Administrative Services
Accountant
Account Clerk
Accounting Supervisor
Finance Administrator
Administrative Secretary
Secretary
Administrative Clerk
Telephone
Operator/Receptionist
Data System Supervisor
Data Entry Operator
Technical Specialist
Information Manager
Records Clerk
Summer Worker
Community Health Specialist
Public Health Services Manager
Public Health Services Superviso
Public Health Services Coordinat
Public Health Program Specialist
Food Service Supervisor
Cook
Driver
Meal Delivery

V. METHODS OF COMPLIANCE

A. Standard Precautions

Standard Precautions are used to prevent transmission of all infectious agents through contact with any body fluid except sweat (regardless of whether these fluids contain visible blood), nonintact skin, or mucous membranes. Barrier techniques are recommended to decrease exposure of health care personnel to body fluids. **Standard Precautions** are used with all patients when exposure to blood and body fluids is anticipated, because medical history and examination cannot reliably identify all patients infected with human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), or other infectious agents.

Use of **Standard Precautions** also decreases transmission of microorganism from patients who are not recognized as having potential pathogens, such as antimicrobial-resistant bacteria (e.g., *Clostridium dificile*).

Standard Precautions include the use of personal protective equipment, bagging, tagging and labeling of items containing blood or any body fluids, consistent housekeeping practices, and appropriate sanitizing, disinfecting and sterilization of supplies and equipment. Additional components of **Standard Precautions** are engineering controls (using products designed to prevent exposures), work practices designed to prevent exposure (such as not recapping contaminated needles), waste and sharps disposal, and exposure recognition with follow-up.

Standard Precautions are to be used to prevent exposure to blood and all body fluids (e.g., semen, vaginal secretions, breast milk, amniotic fluid, peritoneal fluid, pericardial fluid, synovial fluid, cerebral spinal fluid, feces, nasal secretions, sputum, tears, urine, saliva and vomitus).

B. Compliance and Monitoring of Practices

Compliance with **Standard Precautions** policies is monitored through observation. Failure in compliance is discussed with the employee to determine causes and make any needed adjustments in supplies, equipment or procedure. Repeated failure to comply is addressed with corrective action.

Incident reports are monitored for exposures to blood or body fluids, contaminated needle sticks and other such exposures to determine if changes in work practices or supplies or equipment are needed. A sharps injury log is maintained by the Human Resource Manager.

Changes in policy, procedure, supplies or equipment are relayed to personnel through inservices or other educational activity.

C. Engineering and Work Practice Controls

1. Disposal of Needles, Syringes, and Other Sharp Devices - These devices are disposed of in sharps containers labeled with the "BIOHAZARD" symbol. Sharps containers are placed as close to the site of use as feasible (e.g., located in each room of the

health department where venipuncture or injections are performed, or where sharps are expected to be used). Containers will be maintained upright. Sharps are placed in containers as quickly as possible after use. Needles are not recapped, bent, sheared, or broken prior to disposal.

2. Replacing Sharps Containers - Sharps containers are replaced when they are noted to be 2/3 - 3/4 full. The filled containers are closed securely and transported to the storage area that is marked "BIOHAZARD". Sharps containers are stored in a secure designated area pending pick-up by the contracted licensed medical waste service.

3. Handling of Needles, Syringes and Other Sharp Devices – Do not recap, bend, break, or hand manipulate used needles. If recapping is required, use a one-handed scoop technique only (which involves placing the needle on a flat surface and scooping the needle into the cap using only one hand). Nurses are instructed to use this technique should an unusual event occur which requires recapping of a contaminated needle.

4. Glass Capillary Tubes- The following blood collection devices less prone to accidental breakage that shall be used include (1) capillary tubes that are not made of glass (but made of plastic), (2) glass capillary tubes wrapped in puncture –resistant film, (3) products that use a method of sealing that does not require manually pushing one end of the tube into putty to form a plug or (4) products that allow hematocrit to be measured without centrifugation.

5. Safety Devices - Sharps with engineered injury protection are provided when such devices are available and do not pose a hazard to the patient. Mechanical devices are used for finger sticks versus lancets. Non-management personnel assist in the selection of the devices.

6. Disposal of Waste Blood and Body fluids- Blood and body fluids collected but not used for laboratory testing may be poured down sanitary sewers. Waste blood in collection devices (e.g., blood collection tubes) may be disposed of in puncture-resistant, leak-proof, "BIOHAZARD" labeled, sharps container that can be closed securely.

7. Transport of Sharps Containers - Sharps containers, when used in locations away from the local offices, are closed securely and transported, in an upright position, back to the health department in the employee's vehicle. Upon return to the office, sharps containers are placed in the secured storage area pending pick-up by contracted regulated waste hauler.

8. Barrier Devices for Resuscitation - Barrier devices are available in clinic areas and ER Kits to all personnel who are trained in CPR. Personnel are instructed to make every attempt to use the barrier device to provide CPR. However, lack of a barrier device does not prohibit the provision of CPR.

D. **Safe Work Practices**

1. Biohazard Areas - Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses is prohibited in areas where there is a reasonable likelihood of exposure to blood or other potentially infectious material (OPIM) including exam rooms. Food and beverages are not kept in refrigerators, freezers, shelves, and

cabinets, on counter tops or bench tops or in portable insulated coolers where blood or OPIM are stored or handled. Such areas and refrigerators must have "BIOHAZARD" signs.

2. Laboratory - Areas where blood or body fluids are handled or processed are marked with a "BIOHAZARD" sign. Personnel working with blood or body fluid specimens wear gloves and other PPE as indicated. Spills of blood and body fluids are wiped up immediately and the area is cleaned with an EPA registered disinfectant or a 1:10 solution of bleach. Work area surfaces are disinfected periodically during the work shift and at the end of the day. Disinfectant solution is dated when prepared and discarded according to manufacturers recommendations.

3. Laboratory Specimen - Are transported in leak-proof containers and labeled as a "BIOHAZARD". Standard precautions are used for specimen collection and testing processes. Pipetting by mouth is prohibited.

4. Contaminated Equipment - Is cleaned and disinfected prior to repair if possible and clearly labeled as "BIOHAZARD" if parts of the equipment cannot be cleaned. The contaminated parts are clearly listed.

5. Cleaning, Disinfection, and Sterilization of Instruments - Medical/dental instruments are transported in puncture-proof containers or pans to the utility area for cleaning. Reusable sharps that are contaminated with blood or other OPIM will NOT be stored or processed in a manner that requires employees to reach by hand into the container where sharps have been placed. Containers should allow for adequate visibility of the sharps/instruments. Reusable contaminated sharps being processed shall be retrieved utilizing forceps or tongs. Personnel with the responsibility for processing instruments are provided with training in universal precautions, cleaning and disinfection procedures, and appropriate use of the sterilizer. Gloves, gowns or lab coats, mask and a face shield are worn for cleaning and disinfection of instruments.

   The sink where the instruments are cleaned is washed down with an EPA registered disinfectant or solution of 1:10 bleach following instrument cleaning. The sterilization process is conducted according to the manufacturer's recommendations. When opening/preparing a disinfectant solution, the product container shall be dated with the date that it was opened/prepared. The open product shall be appropriately discarded according to shelf life, so as not to compromise the effectiveness of the product. A MSDS sheet should be accessible in the MSDS book.

6. Hand washing - Hand washing should be done following contact with each patient, prior to and upon removal of gloves, after handling contaminated materials and equipment, and whenever hands are visibly soiled. Hand washing facilities are provided in convenient locations within the BRDHD facilities. Hand washing should be with liquid soap and warm water. Rub hands together using friction creating lather for 20 seconds. Rinse and pat dry with a disposable towel. Waterless antiseptic hand cleanser is available for use pending soap and running water hand wash. Soap and water hand washing should be done as soon as possible.

7. Patient Care- Employees with weeping dermatitis or exudative skin lesions should refrain from direct patient contact, or handling patient care equipment, until skin condition resolves.

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E. Regulated Waste Containment and Disposal

Regulated waste includes the following:

- Liquid or semi-liquid blood or OPIM
- Contaminated items that would release blood or OPIM, in a liquid or semi-liquid state, if compressed
- Items caked with dried blood or OPIM and are capable of releasing these materials during handling
- Contaminated sharps
- Pathological and microbiological waste containing blood or OPIM.

Regulated waste requiring pick up by a medical waste disposal contractor:

1. Sharps (e.g., needles, blades, broken tubes, etc), blood and other body fluids*, microbiological and pathological wastes, and human tissue require pick up by a medical waste disposal contractor. These regulated waste items shall be discarded immediately or as soon as feasible in containers that are:
    - Closable
    - Puncture resistant (Sharps)
    - Leak-proof on sides and bottom
    - Labeled "BIOHAZARD" and color-coded
    - If leakage is possible or outside of container is contaminated, place in a closable secondary container. Secondary container shall be constructed to contain all contents and prevent leakage and labeled "BIOHAZARD" and color-coded
    - Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner

    *Note: Blood and other liquid state body fluids can be poured down sanitary sewer for disposal

Regulated waste requiring medical waste disposal contractor pick up shall be placed inside a large red-bagged lined box or approved container from the contractor and maintained in a secured area within the facility.

Other waste under BRDHD policy requiring pick up by a medical waste disposal contractor:

1. Disposable speculums, saturated dressings, applicators used for gynecological exams, diapers with visible blood, and dental procedure wastes require pick up by a medical waste disposal contractor. These regulated waste items shall be discarded immediately or as soon as feasible in containers that are:
    - Closable
    - Leak-proof bags
    - Labeled "BIOHAZARD" and color-coded
    - If leakage is possible or outside of container is contaminated, place in a closable secondary container. Secondary container shall be constructed to contain all contents and prevent leakage and labeled "BIOHAZARD" and color-coded

Items that are *not* regulated waste that can be grouped with ordinary solid waste include:

- Gloves
- Paper products such as table paper
- Dressings such as band-aids
- Cotton balls
- Gauzy pads
- Towels and drapes
- Urine specimen cups
- Tongue depressor blades
- Face masks
- Saliva soaked items (except in dentistry)
- Lab utensils

F. Personal Protective Equipment (PPE)

Items of Personal Protective Equipment - The products are selected based on the ability to provide protection. Most such items are disposable and are not to be reused. Appropriate PPE (barrier protection) should be used when coming in contact with blood and all body fluids, except sweat, whether or not there is visible blood. PPE should be used to protect non-intact skin from blood or OPIM. Personnel are required to use PPE in the situations where they are indicated. BRDHD assumes responsibility for purchase, maintenance, cleaning, and disposal of PPE. All PPE will be removed prior to leaving the work setting. When PPE is removed, it will be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

In rare and extraordinary circumstances, an employee may decline to use the PPE, if in the particular circumstance PPE use would have prevented the delivery of service to the patient or would have posed an increased hazard to the safety of the worker or co-worker. When an employee declines to use PPE, the employee will document the instance in writing and the Clinical Care Coordinator/designee will investigate to determine whether failure to use the equipment was appropriate, and if not, what changes can be instituted to prevent future occurrences.

1. Gloves - Gloves of various types are provided including non-sterile "exam", sterile gloves and utility gloves. Gloves are provided in a number of sizes to provide proper fit for all personnel. Personnel experiencing allergic reactions or complications from wearing gloves must report this to their supervisor. Alternatives are made available to the employee (plastic or vinyl gloves, powder-free gloves or glove liners) when the need is identified.

   Gloves are worn for anticipated contact with blood, body fluids, secretions, excretions, mucous membranes, non-intact skin or contaminated items. Gloves are to be worn for all contact with surfaces soiled by blood or body fluids, ***for administering all injections***, for venipuncture, heel or finger sticks, for all housekeeping procedures in the clinical areas and waste handling, for the evaluations and inspections of nuisance and subsurface sewage sites, for handling animals, and contaminated food specimens.

   Disposable exam gloves and sterile gloves are removed and appropriately discarded

after use. Disposable (single-use) gloves will not be washed or decontaminated for reuse. Gloves must be changed after contact with each patient and between different tasks and procedures on the same patient if contaminated. Gloves that leak or have tears, holes, or weak spots must be replaced with an intact pair.

Utility gloves worn for housecleaning tasks may be decontaminated for reuse if the integrity of the glove is not compromised.

2. Face Masks and Goggles - Fluid resistant face masks and goggles or face shields are supplied to at-risk personnel and are worn when splashes, spray, splatter, or droplets of blood or OPIM may be generated and eye, nose or mouth contamination can reasonably be anticipated. Prescription glasses are not acceptable unless equipped with solid side shields. Goggles, not contaminated with blood or OPIM, may be cleaned and used again. If goggles become contaminated with blood or other OPIM, they may be discarded and replaced.

3. Fluid-resistant Gowns or Lab Coats - Fluid-resistant disposable gowns or lab coats are provided and are worn when splashing, splattering or spray of blood or OPIM can reasonable be anticipated. Gowns or lab coats may also be indicated to protect non-intact skin from exposure to blood or other body fluids. Personnel are instructed, during orientation and on an annual basis, on techniques to use to remove contaminated gowns or lab coats (remove articles, bag contaminated articles, remove gloves, and wash hands). Disposable gowns or lab coats may be placed in the regular trash unless there is blood or OPIM present in amounts capable of being released into the environment.

G. Events Involving Gross Contamination

1. Eye Wash Stations - Eye wash stations are located in areas where splashes or sprays of blood or OPIM into the eyes are a potential event. Precautions are taken to avoid splashing, splattering, and generation of droplets of blood or OPIM.

2. Contamination of Clothing – In the event of gross contamination, the clothing should be removed and bagged as soon as possible. The blood or OPIM should be washed immediately from skin. The employee is not responsible for cleaning contaminated garments. The employee should document the event on an incident report and will be reimbursed if clothing is lost or damaged. Substitute garments are available for the employee to wear in the event clothing must be removed.

H. Housekeeping

1. Cleaning of BRDHD Facilities - Housekeeping personnel are instructed in **Standard Precautions** and use of personal protective equipment.

2. Local health department will ensure the worksite is maintained in a clean and sanitary condition. A written schedule for cleaning and decontaminating the work site will be observed based on the following criteria:

   - Location within the department
   - Type of surface to be cleaned

- Type of soil present
- Task and procedure being performed in the area

All equipment and environmental and working surfaces will be cleaned and decontaminated after contact with blood or other OPIM. Contaminated work surfaces will be decontaminated with an appropriate disinfectant (e.g., Dispatch) after completion of procedures, immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other OPIM, and at the end of the work day if the surface may have become contaminated since the last cleaning.

The surface is saturated with an EPA registered disinfectant or a freshly prepared solution of bleach in a 1:10 dilution and the solution left in place for five to ten minutes if possible. Blood or OPIM contaminated materials are placed in a plastic bag and disposed of in "BIOHAZARD" wastes. After removal and disposal of gloves and PPE, hands are washed

3. Management of a Spill of Blood or OPIM. - A spill involving blood or OPIM is cleaned using techniques and barriers that prevent contact with blood or OPIM. Personal protective equipment worn includes gloves, and may include gown, mask, and goggles.

Contaminated broken glass is not cleaned up by hand but is cleaned up using a broom, brush and dustpan, tongs or forceps should be disposed of in sharps container. Spilled blood or OPIM is absorbed into paper towel or absorbent material if spill kit is used and the material placed in leak resistant container.

All bins, pails, cans and similar receptacles intended for reuse, which has reasonable likelihood for becoming contaminated with blood, or OPIM will be:

- Inspected and decontaminated on a regularly scheduled basis;
- Cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

I. Laundry

1. BRDHD utilizes disposable linen. If excessive contamination occurs, these items will be handled as regulated waste.

2. Employee Clothing-See V.G.2.

VI. Smallpox Bifurcated Needles

The prepackaged kit for administration of licensed Dryvax® smallpox vaccine includes use of a bifurcated needle. As of January 2003, CDC has determined that no commercially available safety-engineered bifurcated needle is an appropriate replacement for the bifurcated needle that is included in the pre-packaged kit. If, in the future, a safety device becomes commercially available to replace the bifurcated needle, standards require employers to evaluate whether such devices are appropriate for use at their workplace.

Bloodborne Pathogen Standards require employers to provide training to employees in any new tasks or procedures that affect the employee's occupational risk of exposure. Administration of smallpox vaccine would be a new task or procedure for most employees. The materials provided by the vaccine manufacturer and CDC training provides the foundation for meeting this requirement.

A. Safe Use and Disposal of Smallpox Bifurcated Needles:

a. Ensure that vaccination supplies, including sharps containers, are conveniently located at the point of vaccination.
b. Prior to performing vaccination, explain to the client the risk of sharps injury and the need to avoid inadvertent movement during the procedure.
c. Maintain visual contact with the bifurcated needle until vaccination is completed and the needle is disposed.
d. Immediately dispose of the bifurcated needle into the point-of-use sharps container.
e. If a bifurcated needle drops, carefully retrieve the needle in such a way as to minimize the possibility of accidental needlestick. The preferred method is with use of forceps. In no event should an employee touch the sharp end of the needle. Gloves should be donned during this process.
f. Dispose of vaccine vials and blood-contaminated gauze in the appropriate waste containers in accordance with guidelines from The Kentucky Department for Public Health and CDC.

B. Management of Smallpox Bifurcated Needle Exposure

BRDHD will utilize the current procedure under section V. of this plan for a bloodborne pathogen exposure. Exposure management to vaccinia will be compliant with recommendations provided by The Kentucky Department for Public Health and CDC.

VII. HEPATITIS B PRE-EXPOSURE VACCINE PROGRAM

Hepatitis B virus (HBV) is a viral infection that affects the liver. This potentially serious disease poses an occupational risk to health care workers (HCW). Risk of infection is related to frequency of exposure to blood and body fluids. An effective hepatitis B prevention program includes both the use of universal precautions and a hepatitis B vaccine program.

A. **Hepatitis B Vaccine** - The employee is provided with information about the vaccine during orientation. All employees are offered hepatitis B vaccine at no cost and vaccine is provided within 10 days of employment or assignment. In addition, an employee may finish an incomplete vaccination series. The vaccine is offered at times and sites which are chosen for convenience to the employee. Employees choosing to be vaccinated or to finish an incomplete vaccination series will sign a consent form. If an employee chooses not to receive hepatitis B vaccine, a declination statement will be signed.

Alternatively, an employee may provide evidence of positive Antibody to Hepatitis B Surface Antigen (anti-HBs $\geq$10 mIU/ml) or evidence of having received three doses of hepatitis B vaccine. Employees who change their mind about vaccine may start/resume vaccine at any point in time. Declining Hepatitis B vaccine requires signing a declination form.

Pre-vaccine testing for immunity is not recommended, not routine and is not required but may be provided for the employee who requests testing. Post-vaccine testing for immunity (hepatitis B surface antibody) is strongly recommended at 1 to 2 months post vaccine to insure response but is not required. Management of nonresponders shall be in accordance with current CDC guidelines.

B. **Hepatitis B Vaccine Administration** - Hepatitis B vaccine is administered by a registered nurse after the individual has been provided with information about the vaccine (i.e., given a vaccine information statement) and had an opportunity to ask questions which have been answered. The vaccine is administered only after the employee has signed consent. The nurses who administer the vaccine are provided with training to prepare them to answer the employee's questions and to administer the vaccine and the vaccine is given according to the directions given in the package insert. The site of the injection is the deltoid muscle of the arm. A needle length of at least one inch should be used for men. For women who weigh 180 pounds or less, a one inch needle length should be adequate, for women who weigh more than 180 pounds, the needle used should be at least 1 ½ inch in length. The employee is instructed to report any signs or symptoms that occur in relation to the vaccine administration. All health records are maintained in a secure and confidential manner.

C. **Previous Hepatitis B Vaccine Recipients-Vaccine History**
If an employee declines hepatitis B vaccine because they have previously received the series, the employee will be requested to obtain copies of previous hepatitis B vaccine administration records and titer results to attach to their health file with BRDHD.

If administration records/titer results are not on file with BRDHD and an occupational exposure to blood or other potentially infectious materials occurs, it will be recommended the exposure be managed as if unvaccinated.

VIII. MANAGEMENT OF EXPOSURE TO BLOODBORNE PATHOGENS

A. Definition of Exposure to Blood or Body Fluid

1. Percutaneous Injury

Exposure to a bloodborne pathogen may occur through a needlestick injury involving a contaminated needle (been in contact with blood or body fluids). Examples include needles used to give injections (I.V., I.M., S.Q., or intradermal) and needles that have been inserted into intravenous access devices.

Exposure to a bloodborne pathogen may occur through a cut with a contaminated sharp instrument such as a scalpel, lancet, etc.

2. Mucous Membrane Exposure

Exposure to a bloodborne pathogen may occur through splashing blood or body fluids into eyes, nose, or mouth.

3. Nonintact skin

Exposure to a bloodborne pathogen may occur when blood or body fluids comes into contact with nonintact skin (exposed skin that has a new or a previously existing open laceration, abrasion, skin lesion, dermatitis or chapped).

4. Human Bite Wounds

When skin is broken, human bite wounds are also treated as exposures to blood or body fluids for both the bite recipient and the person inflicting the bite. Human bite wounds frequently result in infections with organisms other than bloodborne pathogens and should always receive medical evaluation.

B. Body Fluids That Can Transmit Bloodborne Pathogens

The body fluids which are considered capable of transmitting bloodborne pathogens include: blood; amniotic fluid; pericardial fluid; peritoneal fluid; pleural fluid; synovial fluid; cerebrospinal fluid; semen; vaginal secretions; oral secretions in a dental setting; and any body fluid visibly contaminated with blood.

Some body fluids (feces, nasal secretions, sputum, saliva, sweat, tears, urine, and vomitus) are not considered capable of transmitting bloodborne pathogens unless visibly contaminated with blood. However, **Standard Precautions** will be used with all blood and body fluids (except sweat).

C. Events Not Treated as an "Exposure to Bloodborne Pathogens"

Needlestick injuries from needles not contaminated with blood or body fluids (for example, needle used only to draw up a medication).

Blood or body fluid coming in contact with intact skin when the area of contact is minimal and the blood or body fluid is immediately washed away.

Exposures involving feces, nasal secretions, sputum, sweat, tears, urine, vomitus that are not visibly bloody.

D. **Issues Related to Exposure to Primary Bloodborne Pathogens** (HBV, HCV, HIV)

Hepatitis B virus - Transmission in the occupational setting may be prevented through pre-exposure completion of the hepatitis B vaccine. Post-exposure prevention of HBV infection may be managed by administering a single dose of hepatitis B immune globulin (HBIG) and the hepatitis B vaccine series (with the first dose of the series administered at the same time at a different anatomical site). This regimen is 90% effective in preventing HBV transmission. Alternatively, post-exposure prophylaxis may be provided by administering 2 doses of HBIG (the first dose at the time of the exposure and the second dose one month later). The risk of transmission of hepatitis B from a percutaneous injury when the source is hepatitis B antigen positive (and the exposed individual is not immune and no treatment is given) ranges 6% to 30%.

Hepatitis C virus - HCV may be transmitted in the occupational setting. Risk of transmission of HCV following a percutaneous exposure is estimated to average 1.8%. No vaccine exists to prevent HCV infection and antiviral therapy is not recommended as post-exposure prophylaxis. However, research on the use of treatment of early infections is promising. Health care workers with exposure to HCV should be monitored and receive follow-up care if seroconversion occurs.

Human Immunodeficiency Virus - HIV may be transmitted in the occupational setting. The risk is estimated to average 0.3% following a percutaneous injury from an HIV contaminated sharp. Retrospective case-control studies have found the risk of infection is increased when the worker was exposed to a larger quantity of blood, as indicated by (1) a visibly bloody device, (2) a procedure that involved placing a needle in a patient's vein or artery, or (3) a deep injury. The average risk of HIV transmission after a mucous membrane exposure to HIV-infected blood has been estimated to be approximately 0.09%

E. **Risks Related to Exposures Other Than Percutaneous Injury**

A risk of transmission for HBV, HCV, and HIV exists when the exposure involves blood or bloody body fluid coming into contact with non-intact skin or mucous membrane. However, risk is not well quantified for such exposures. When the contact of blood on intact skin involves a large area or prolonged contact, post-exposure follow-up may be considered on a case-by-case basis.

Human bite wounds must be treated as possible exposures to bloodborne pathogens for both the person inflicting the bite and the bite recipient and post-exposure follow-up including post-exposure prophylaxis should be considered.

F. **Decisions Related to Antiretroviral Therapy Following Exposure to HIV**

The decision to recommend HIV post-exposure prophylaxis for HIV infection must take into account the nature of the exposure and the amount of blood or body fluid involved in the exposure. Pregnancy in the health care worker is an issue that must be considered. The possibility that the exposure involved a virus with antiretroviral drug resistance must be considered.

Occupational exposure to HIV should be considered an urgent medical concern. The effectiveness of antiretroviral drugs may be linked to prompt initiation of drug therapy. In animal studies, the initiation of antiretroviral therapy within one to two hours following exposure greatly reduced the risk of retroviral infection. This doesn't mean therapy should be denied if antiretroviral therapy is delayed.

G. **Action To Be Taken in the Period Immediately Following the Exposure**
Wash skin (with soap and water), flush eyes, nose, or mouth quickly and thoroughly (use solution available, saline or water).

Notify supervisor and/or BRDHD Communicable Disease Division personnel of the event and provide details of the exposure.

H. **Management of the Source (patient) of Exposure**
It is essential that the patient (source) be approached as quickly as possible to ensure that there is an opportunity to obtain consent and blood for follow-up testing (see Source Consent for BBP Testing form). Inform the source of the exposure, provide counseling, obtain consent and assess history for risk factors. The Barren River District Health Department assumes full responsibility for the costs related to this testing.

Source blood testing includes: HIV antibody, hepatitis B Surface Antigen (HBsAg), and hepatitis C antibody (anti-HCV).

Assess the person who is the source of the blood for risk factors that may indicate an increased risk of infection with HBV, HCV, or HIV. Such factors include clinical symptoms (symptoms which are suggestive of primary HIV infection or undiagnosed HIV disease), known history of viral hepatitis, history of possible bloodborne pathogen exposures (injecting-drug use, sexual contact with known HIV-infected partner, unprotected sexual contact with multiple partners [heterosexual and/or homosexual], or receipt of blood or blood products*). Complete the *BRDHD Exposure Risk Evaluation Form For The Source (patient)*

*Note: History of having received blood or blood products increases the risk of bloodborne disease to variable degrees. Screening of donor blood for antibody to HBV was implemented around 1980. The risk of HIV infection from blood transfusion has been greatly reduced since 1985 when laboratory testing for antibody to the HIV virus was implemented for donated blood. Screening of donated blood for antibody to HCV was implemented in 1992 and greatly reduced the risk of HCV infection as a result of receiving blood or blood products.

I. **Management of the Exposed Employee**

Treatment should be implemented in consultation with a physician, therefore, when an employee has an exposure, a medical evaluation is recommended. This evaluation is available through ***The Medical Center Emergency Department***, who will be responsible for assessing exposure, writing the prescriptions, and monitoring of treatment. Go to the Medical Center Emergency Department closest to your assigned work location. (Medical Center at: Bowling Green, Franklin, Scottsville, or Caverna)

All employees receiving a potential exposure to any blood or body fluid will be provided counseling regarding the need for immediate follow-up and offered the opportunity to receive a medical evaluation through a Medical Center Emergency Department. The employee will have the option to 1) Be evaluated through a Medical Center Emergency Department, or 2) decline the evaluation. The employee will sign the *Occupational Exposure to Blood or Body Fluid Employee Consent/Declination Form.* BRDHD will not determine if an exposure has occurred. The evaluating physician will determine if an actual exposure has occurred and if postexposure prophylaxis is appropriate.

If the employee chooses to have a medical evaluation, the following steps are to be taken:

- Obtain hepatitis B vaccine history
- Complete the BRDHD *Injury Report* form (pink). Send the completed form to the Human Resource manager as soon as possible (within 24hours)
- Provide the employee a KACO Card, workers Compensation Provider Listing, Pharmacy Provider Listing and Preferred Pharmacy Card form. (these are located in a packet kept by the Nurse Supervisor)
- Send the employee to the Medical Center Emergency Department, closest to their assigned work location, with the BRDHD *Physician Information/Evaluation Form,* (located in the Nurse Supervisor's Bloodborne Pathogen Exposure red folder)
- If the employee needs prescriptions, complete the Preferred Pharmacy Card Form and send the top portion of the form to the Human Resource Manager.
- The employee should return the KACO card back to the Nurse Supervisor upon arrival to work.

Initial blood tests for the exposed individual will generally include: HIV antibody, hepatitis B surface antigen (HBsAg), hepatitis B surface antibody quantitative (anti-HBs), antibody to hepatitis B core antigen (anti-HBc), hepatitis C antibody, and liver function test (LFT). Screening for hepatitis B may omitted if the exposed individual has completed the hepatitis B vaccine series and had test results for anti-HBs showing immunity. Physician follow-up should be initiated as soon as possible (within hours). An incident report must be completed but should not delay the employee's departure for medical follow-up.

J. **Role of the Communicable Disease Team Personnel in the Follow-up**

Communicable Disease Team Personnel maintain communication with the employee throughout the follow-up process to ensure the employee's needs are met and to provide or ensure provision of emotional support as needed.

Communicable Disease Team Personnel serve as a liaison with the health care provider providing post-exposure medical management and the employee is provided with written recommendations within 15 days of the exposure event.

Communicable Disease Team Personnel should ensure available laboratory results from testing on the source are provided to the physician managing the care of exposed employee and that copies are included with the exposure record.

K. **Role of Health Care Provider in Bloodborne Pathogen Exposure Follow-up**

The Health Care Provider caring for the exposed employee will recommend post-exposure prophylaxis based on current guidelines from the CDC and ensure the employee is aware of: potential risks related to a potential exposure to bloodborne pathogens; the advantages and risks associated with post-exposure prophylaxis; precautions to be taken pending results of follow-up testing; potential side effects of recommended treatments; and what to do should the employee experience symptoms of illness during the weeks following the exposure. Refer to June 29, 2001 supplement to MMWR Vol. 50/No.RR-1 for the Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Post Exposure Prophylaxis.

The Health Care Provider will ensure the employee has an opportunity to have questions answered.

The Health Care Provider should complete and return the "Physician Treatment Form" within the requested time frame to the address included on the form.

L. **Recommendations for Exposure to Specific Bloodborne Pathogens**

A document entitled "Occupational Exposure to Blood or Body Fluids - Employee Information" is provided as an attachment to these policies and is intended for use as an employee handout. This document summarizes the currently available information about the risks of transmission of bloodborne pathogens, available prophylaxis, and recommended precautions.

1. **Employee exposed to HIV** (See Table 1.& 2.under HIV Hotline and Tables Section)
When the source of blood is known to be HIV positive, inform the physician managing the exposure. Available information about the status of source (stage of disease, history of antiretroviral treatments, HIV RNA testing and CD4+ T cell counts) should be communicated to the physician who is managing the exposure. This information will be very helpful in making appropriate decisions about post-exposure prophylaxis (PEP).When risk factors are identified that may indicate that the source patient has increased risk of HIV infection, inform the physician managing medical follow-up of the exposed employee. This information will be vital in making decisions about the need for post-exposure prophylaxis.

   When the source of blood or body fluid is discovered to be HIV positive in the course of the exposure investigation, the source patient's physician must be notified of the lab results as quickly as possible as the physician must inform the person and ensure appropriate care is provided.

   When the source patient is discovered to be HIV positive in the course of the follow-up investigation, the exposed employee and the physician managing the exposure must be informed immediately as alterations in the exposed employee's post-exposure treatment plan may be required.

   For HIV post-exposure prophylaxis resources and registries, see Table 2

2. **Employee exposed to hepatitis B surface antigen positive source**
(See Hepatitis B Information Section)
When the exposed employee has received the complete hepatitis B vaccine series and post-vaccine testing has revealed the employee to be a hepatitis B vaccine responder (defined as serum levels of anti-HBs $\geq$ 10 mIU/ml), no further action is needed to prevent infection with HBV.

   When the exposed employee has received the complete hepatitis B vaccine series and antibody response is unknown, the employee should be tested for antibody response (anti-HBs).
   a) If found to have an adequate response (defined as serum levels of anti-HBs $\geq$ 10 mIU/ml), no further action needs to be taken to protect the exposed person from hepatitis B infection.
   b) If found to have an inadequate response (defined as serum levels of anti-HBs < 10 mIU/ml), the employee should receive a single dose of HBIG (0.06 mg/kg I.M) and the hepatitis B vaccine series should be reinitiated. Hepatitis B vaccine and HBIG may be given at the same time at two different anatomical sites.
   The option of giving 1 dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For person's who previously completed a second vaccine series but failed to respond, 2 doses of HBIG are preferred.

When the exposed employee has received the complete hepatitis B vaccine series, post-vaccine testing was performed, and testing revealed the exposed person to have an inadequate response (defined as serum levels of anti-HBs < 10 mIU/ml), the exposed person should receive a single dose of HBIG (0.06 mg/kg I.M) and the hepatitis B vaccine series should be reinitiated. Hepatitis B vaccine and HBIG may be given at the same time at two different anatomical sites. The option of giving 1 dose of HBIG and reinitiating the vaccine series is preferred for nonresponders who have not completed a second 3-dose vaccine series. For person's who previously completed a second vaccine series but failed to respond, 2 doses of HBIG are preferred.

If the exposed employee has not received hepatitis B vaccine, a single dose of HBIG (0.06 mg/kg I.M) and the first dose of the hepatitis B vaccine should be provided. The dose of HBIG and the first dose of hepatitis B vaccine (with the remainder of the series to be provided on schedule) may be given at the same time at two different anatomical sites.

If the exposed employee has had a single dose of hepatitis B vaccine and at least 28 days has elapsed since the first dose, the second dose of vaccine may be administered with a single dose of HBIG. The third dose of vaccine should be given on schedule.

If the exposed employee has had two doses of hepatitis B vaccine and at least two months have elapsed since the second dose and four months have elapsed since the first dose, the third dose may be administered and a single dose of HBIG administered at the same time at a different anatomical site.

3. **Employee exposed to hepatitis C virus**

When the source of blood is found to be anti-HCV positive, confirmatory testing (recombinant immunoblot assay [RIBA]) is performed. The exposed employee should have anti-HCV and baseline ALT drawn. Anti-HCV and ALT should be repeated in six months. The employee should be informed that the risk of acquiring hepatitis C virus infection from a percutaneous exposure when the source is anti-HCV positive is estimated to average 1.8%. There is no vaccine for prevention of hepatitis C infection. Serum immune globulin following exposure is not recommended.

An employee who seroconverts and becomes positive for anti-HCV will be referred for medical evaluation and management.

M. **Extended Follow-up When Source Laboratory Tests Are Negative**

In general, extended testing, when the source of the exposure tests negative for hepatitis B virus, hepatitis C virus, and the human immunodeficiency virus, is not recommended in CDC guidelines. Consideration may be given to extended testing when the source is identified as having a high risk of infection with bloodborne pathogens. Extended testing could be beneficial when there are concerns that the individual has had recent exposure and insufficient time has elapsed for antibodies to develop.

N. **Confidentiality**

Information related to the source and the exposed employee will be maintained throughout this process. All individuals involved will limit discussion of this event to those involved in the investigation and follow-up.

O. **Records**

An incident report must be completed and the injury shall be recorded on the Sharps Injury Log. The Human Resource Manager and the Communicable Disease Team shall maintain health records and bloodborne pathogen exposure related records for the duration of employment plus 30 years.

The employer may have access to the following records:

1. Health care professional's written opinion on the indications for hepatitis B vaccination and dates of vaccinations, if received.
2. Signed consent or declination for hepatitis B vaccine.
3. Routes and circumstances of exposure incidents to determine follow-up corrective action.
4. Results of source patient's blood testing and results of the exposed employee's blood testing.
5. Health care professional's written documentation that employee was informed of results of medical evaluation, recommended treatment, and the need for further follow-up.

BARREN RIVER DISTRICT HEALTH DEPARTMENT
BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN
16th ed.

GLOSSARY (ABBREVIATIONS AND DEFINITIONS)

1. **Acquired Immune Deficiency Syndrome (AIDS) -** An advanced stage of infection with the Human Immunodeficiency Virus (HIV). AIDS is associated with opportunistic infection, the development of certain cancers, dementia, and wasting syndrome.

2. **Bloodborne Pathogens** -While hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) are specifically identified in the standard, the term includes any pathogenic microorganism that is present in human blood or other potentially infectious materials (OPIM) and can infect and cause disease in persons who are exposed to blood containing the pathogen. Pathogenic microorganisms can also cause disease such as, malaria, syphilis, arboviral infections, and viral hemorrhagic fever. The primary agents of concern in healthcare settings in the U.S. are HBV, HCV, and HIV.

3. **Centers for Disease Control and Prevention (CDC) -** Agency of the Federal Government, a Division of Health and Human Services.

4. **Contaminated** - the presence or reasonably anticipated presence of blood or other potentially infectious material (OPIM) on an item or surface.

5. **Engineered Sharps Injury Protections** - Means a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature to prevent exposure events.

6. **Engineering Controls** - Means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the work place.

7. **Hepatitis B Virus (HBV)** - The virus that causes hepatitis B infection. HBV is one of the bloodborne pathogens that may be transmitted through percutaneous injury from a contaminated sharp. Transmission is also possible when blood or other potentially infectious material comes into contact with skin or mucous membrane.

8. **Hepatitis B Vaccine -** Immunization to prevent infection with HBV. For adults, the vaccine is administered by intramuscular injection in the deltoid muscle in a series of three doses. Immunity, confirmed by serology, is believed to be persistent and possibly life-long. Current vaccine is produced through recombinant technology.

9. **Hepatitis C Virus (HCV)** - A virus that causes hepatitis C infection. HCV is one of the bloodborne pathogens that may be transmitted through percutaneous injury from a contaminated sharp. Transmission of this infection is also possible when blood or other potentially infectious material come into contact with skin or mucous membrane. No vaccine is available for prevention of this infection.

10. **Hepatitis D Virus (HDV) -** A virus that causes hepatitis D infection. HDV is an incomplete virus. Infection with this virus produces disease only in the presence of hepatitis B infection. Co-infection with HBV and HDV is associated with a higher risk of serious illness and higher rates of mortality.

11. **Human Immunodeficiency Virus (HIV) -** A human retrovirus that causes an infection that is associated with deterioration of the immune system.

12. **Needleless systems** - Means a device that does not use needles for:

    a) The collection or withdrawal of body fluids after initial venous or arterial access is established;

    b) The administration of medication or fluids; or

    c) Any other procedures involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

13. **Occupational Exposure to Bloodborne Pathogen** - Skin, eye, mucous membrane, nonintact skin (and possibly through prolonged or extensive contact with intact skin), or parental contact with blood and OPIM that may result from the performance of an employee's duties or presence in the occupational setting. Non-intact skin includes skin with dermatitis, hangnails, cuts abrasions, chafing, acne, etc.

14. **Occupational Safety and Health Administration (OSHA)** - Section of the U.S. Department of Labor responsible for occupational safety and health.

15. **OPIM - Other Potentially Infectious Materials** - human body fluids including: semen, vaginal secretions, cerebrospinal fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

16. **PPE - Personal Protective Equipment** - Specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, or shirts) are not considered personal protective equipment.

17. **Regulated Waste** - Includes liquid or semi-liquid blood or OPIM; contaminated items that would release blood or OPIM, in a liquid or semi-liquid state, if compressed; items caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological waste containing blood or OPIM.

18. **Standard Precaution**- Precautions used for contact with blood; all body fluids, secretions and excretions except sweat (regardless of whether these fluids, secretions, or excretions contain visible blood); nonintact skin; and mucous membranes. They are designed for the care of all patients regardless of their diagnosis or presumed infection status.

19. **Transmission-based Precautions**- Designed for patients documented or suspected to have colonization or infection with pathogens for which additional precautions beyond Standard Precautions are recommended to prevent transmission. The 3 types of transmission on which these precautions are based are **airborne, droplet, and contact**. Refer to *Red Book* 2009, 28th edition.

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE INFORMATION - PAGE 1 OF 3

RISK OF INFECTION FOLLOWING EXPOSURE

Current information from the Centers for Disease Control indicates the risk of infection with HIV (Human Immunodeficiency Virus) following an HIV contaminated percutaneous exposure (i.e., needle stick or lancet cut) is estimated to be approximately 0.3%. This estimate is based on prospective studies of cases in which the source is HIV antibody positive and the exposed individual is HIV antibody negative. The risk of HIV infection following mucous membrane exposure is estimated to be approximately 0.09% and non-intact skin exposure is estimated to be less than that of a mucous membrane exposure, although not well quantified. The risk of infection from occupational exposure to hepatitis B virus (HBV) from a percutaneous exposure is estimated at up to 30% when the source is HBeAg positive and the exposed individual is not immune to HBV. The average risk of acquiring hepatitis C virus (HCV) infection when the source is anti-HCV positive and the exposed individual is negative is estimated to be approximately 1.8% following an HCV contaminated percutaneous injury.

The source of the blood or body fluid may be identified as having a higher risk of being infected with a bloodborne pathogen when there are clinical symptoms (symptoms which are suggestive of primary HIV infection or undiagnosed HIV disease), known history of viral hepatitis, history of possible bloodborne pathogen exposures (injecting-drug use, sexual contact with known HIV-infected partner, unprotected sexual contact with multiple partners, or receipt of blood or blood products in years before testing for bloodborne pathogens was available).

No estimate of risk for these infections can be assigned to an exposure when the source of the contamination is unknown. In the event of exposure to an unknown source, it is advisable to treat the event as an exposure to HBV, HCV, and HIV.

CONFIDENTIALITY

Confidentiality of the person who was the source of the blood or body fluid and employee information is critical in the management of exposures. Discussion of the event shall be limited to those involved in the follow-up. Consultation is provided by the physician managing the exposure, and is available from the BRDHD Communicable Disease Division as well as from outside resources such as the CDC. An exposure event may be a very stressful experience. Discuss your concerns with your health care provider or personnel from the Communicable Disease Division.

MANAGEMENT OF FOLLOW-UP

Management of bloodborne pathogen exposure is provided at no charge to employee and should be provided under the direction of a health care professional with knowledge and experience in the management of bloodborne pathogen post-exposure prophylaxis. When the exposure is deemed to be high risk for HIV exposure, experience and knowledge of the management of antiretroviral therapy is especially important.

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE INFORMATION - PAGE 2 OF 3

KNOWN OR SUSPECTED EXPOSURE TO HIV

HIV antibody testing should be performed on both the person who is the source of blood or body fluid and the exposed individual. The health care provider who is managing the post-exposure follow-up may recommend antiretroviral therapy pending the results of HIV laboratory testing. Information about the source that may indicate there is increased risk that the exposure may have involved HIV exposure must be communicated to the health care provider who is managing the exposure. When the source person is known to be HIV positive, this information plus all recent lab results (CD4+ T cell counts and HIV RNA levels) and antiretroviral therapy history should be provided to the health care provider who is managing the exposure.

The decision to recommend HIV post-exposure prophylaxis must take into account the nature of the exposure and the amount of blood or body fluid involved in the exposure. Pregnancy in the exposed individual presents another issue that must be taken into consideration. In addition, the potential for antiretroviral resistance must be considered.

Current recommendations for post-exposure prophylaxis include a basic 4-week regimen of two drugs (zidovudine and lamivudine) for most HIV exposures and an expanded regimen that includes the addition of a protease inhibitor (indinavir or nelfinavir) for HIV exposures that pose an increased risk of transmission or where antiretroviral resistant is known or suspected.

While undergoing post-exposure prophylaxis with antiretroviral therapy, side effects are not uncommon. Most side effects can be managed but some may be severe enough to require an alteration in regimen. While adherence to the regimen may be extremely important, some side effects may be serious and reporting of side effects is encouraged.

The exposed individual should seek medical evaluation (if possible, from the health care provider managing the post-exposure follow-up) for any acute illness that occurs during the follow-up period. An illness characterized by fever, rash, myalgia, fatigue, malaise, or lymphadenopathy may be indicative of acute HIV infection but also may be due to a drug reaction or another medical condition.

The individual with occupational exposure to HIV should receive post-exposure testing at baseline and at six weeks, twelve weeks, and six months after the exposure. Post-exposure testing should be performed regardless of whether antiretroviral therapy is taken.

HIV-occupationally exposed individuals should take precautions to prevent secondary transmission during the follow-up period (especially in the twelve weeks following the exposure): practice sexual abstinence to prevent sexual transmission or use latex condoms to decrease transmission risk; avoid pregnancy; refrain from donating blood, plasma, organs, tissue, or semen; do not share personal care items such as razors, toothbrushes, nail grooming equipment or drug works; and inform health care providers of exposure in the event that health care is provided during the follow-up.

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE INFORMATION - PAGE 3 OF 3

If the exposed individual is breast-feeding, it should be recognized that there is a risk for HIV transmission through breast milk. Discontinuation of breastfeeding during the follow-up period should be considered when an HIV exposure has occurred. In addition, discontinuation of breastfeeding should be considered when the occupationally exposed individual is taking antiretroviral therapy.

KNOWN OR SUSPECTED HEPATITIS B VIRUS EXPOSURE

BRDHD offers hepatitis B vaccine to employees at risk of occupational exposure. Employees who have previously declined vaccine are encouraged to reconsider this vaccine and informed that the option to receive hepatitis B vaccine remains available. In the event of a HBV exposure, hepatitis B vaccine may be recommended as post-exposure prophylaxis.

If an individual has had the hepatitis B vaccine series, was tested for immunity upon completing the series, and was found to be immune; no further action is needed to protect the individual from infection with HBV. Current recommendations from the Centers for Disease Control are to consider immunity following hepatitis B vaccine as lifelong immunity.

If and individual has experienced an occupational exposure to hepatitis B (the source of a bloodborne pathogen exposure is identified as HBsAg positive) and is unsure that immunity developed following vaccine administration or they have not received the complete hepatitis B vaccine series, it is important to determine the individuals immune status at this time, if possible. If considerable time has elapsed since the hepatitis B series was provided, testing for anti-HBs at this time may not be productive, as measurable immunity is known to decline in many individuals.

In the event the source is found to be or known to be HBsAg positive, Hepatitis B Immune Globulin and Hepatitis B Vaccine should be administered if the exposed individual does not have documented immunity to HBV. Effectiveness of these measures may be reduced by delay.

HBV- occupationally exposed individuals do not need to take any special precautions to prevent secondary transmission during the follow-up period; however, they should refrain from donating blood, plasma, organs, tissue, or semen.

KNOWN OR SUSPECTED HEPATITIS C EXPOSURE

In the event the source is found to be or known to be hepatitis C antibody positive there is no recommended post-exposure prophylaxis. However, recommendations for treatment of early infections are rapidly evolving and individuals occupationally exposed to HCV should be monitored and receive follow-up care if seroconversion occurs. The exposed individual should be followed with periodic hepatitis C antibody testing.

HCV- occupationally exposed individuals do not need to take any special precautions to prevent secondary transmission during the follow-up period; however, they should refrain from donating blood, plasma, organs, tissue, or semen. The exposed individual does not need to modify sexual practices or refrain from becoming pregnant. If an exposed woman is breastfeeding, she does not need to discontinue.

Reference: supplement to MMWR June 29, 2001 / vol.50 / No.RR-11

BARREN RIVER DISTRICT HEALTH DEPARTMENT REPORT OF EMPLOYEE BLOODBORNE PATHOGEN EXPOSURE CHECKLIST

Supervisors please initial each item when completed or write N/A.

In order to assure the best possible outcome, items 1 through 11 must be completed promptly:

1. _____ **Exposed employee to immediately treat affected area as indicated: wash skin with soap and water; flush eyes, nose, or mouth quickly and thoroughly with saline or water.**

2. _____ **Patient (source) advised to remain in clinic.**

3. _____ **Have employee review the following handout: Occupational Exposure To Blood Or Body Fluids Employee Information (3 pages).**

4. _____ **Inform the patient (source) of the exposure, provide counseling, and have patient (source) sign the Acknowledgement of Counseling and Education and the Authorization For Release/Acquisition Of Patient Information form (ROI).**

5. _____ **Assure that source's history/risk factors are identified by completing *Source of Blood or Body Fluid Information* section on page 1 of the Physician Information/Evaluation Form.**

6. _____ **Obtain the following from the patient (source): HIV antibody, hepatitis B Surface Antigen (HbsAg), and hepatitis C antibody (anti-HCV). Lab specimens are to be sent to Quest Diagnostics.**

7. _____ **Provide counseling to employee for the need of immediate follow-up.**

8. _____ **If employee consents to post-exposure follow-up with a health care provider, have employee sign OPTION 1 on the Occupational Exposure To Blood Or Body Fluids Employee Consent/Declination Form.**

9. _____ **Complete page 1 of the BRDHD Physician Information/Evaluation Form and send employee with form *immediately* to the closest Medical Center Emergency Department: (Bowling Green, Franklin, Scottsville, Horse Cave). (*Clinician must complete side 2 of form*).**

10. _____ **If employee declines to consult with a health care provider regarding the advisability of post-exposure prophylaxis, the employee must sign OPTION 2 on the Occupational Exposure To Blood Or Body Fluids Employee Consent/Declination Form.**

11. _____ **Notify Personnel Director @ 781-8039 Ext. 117 and Communicable Disease Team of the BBP exposure and the following: employee en route to CorpCare or employee declines a medical evaluation.**

12. _____ Complete BRDHD Report of Employee Injury/Illness form.

13. _____ Complete BRDHD Report of Employee Bloodborne Pathogen Exposure form with the employee upon return to work.

Send the following forms to the Personnel Director and the Communicable Disease Team *within 24 hours* following the incident:

1. _____ BRDHD Source Acknowledgement on Counseling /Education and Authorization For Release/Acquisition Of Patient Information
2. _____ Occupational Exposure To Blood or Body Fluids Employee Consent/Declination
3. _____ Physician Information /Evaluation Form (if returned with employee after medical evaluation)
4. _____ BRDHD Report Of Employee Bloodborne Pathogen Exposure
5. _____ BRDHD Report Of Employee Injury/Illness
6. _____ Copy of BRDHD Report of Employee Bloodborne Pathogen Exposure Checklist
7. _____ Copy of employee's CH-2 record.

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE INFORMATION - PAGE 1 OF 3

RISK OF INFECTION FOLLOWING EXPOSURE

Current information from the Centers for Disease Control indicates the risk of infection with HIV (Human Immunodeficiency Virus) following an HIV contaminated percutaneous exposure (i.e., needle stick or lancet cut) is estimated to be approximately 0.3%. This estimate is based on prospective studies of cases in which the source is HIV antibody positive and the exposed individual is HIV antibody negative. The risk of HIV infection following mucous membrane exposure is estimated to be approximately 0.09% and non-intact skin exposure is estimated to be less than that of a mucous membrane exposure, although not well quantified. The risk of infection from occupational exposure to hepatitis B virus (HBV) from a percutaneous exposure is estimated at up to 30% when the source is HBeAg positive and the exposed individual is not immune to HBV. The average risk of acquiring hepatitis C virus (HCV) infection when the source is anti-HCV positive and the exposed individual is negative is estimated to be approximately 1.8% following an HCV contaminated percutaneous injury.

The source of the blood or body fluid may be identified as having a higher risk of being infected with a bloodborne pathogen when there are clinical symptoms (symptoms which are suggestive of primary HIV infection or undiagnosed HIV disease), known history of viral hepatitis, history of possible bloodborne pathogen exposures (injecting-drug use, sexual contact with known HIV-infected partner, unprotected sexual contact with multiple partners, or receipt of blood or blood products in years before testing for bloodborne pathogens was available).

No estimate of risk for these infections can be assigned to an exposure when the source of the contamination is unknown. In the event of exposure to an unknown source, it is advisable to treat the event as an exposure to HBV, HCV, and HIV.

CONFIDENTIALITY

Confidentiality of the person who was the source of the blood or body fluid and employee information is critical in the management of exposures. Discussion of the event shall be limited to those involved in the follow-up. Consultation is provided by the physician managing the exposure, and is available from the BRDHD Communicable Disease Division as well as from outside resources such as the CDC. An exposure event may be a very stressful experience. Discuss your concerns with your health care provider or personnel from the Communicable Disease Division.

MANAGEMENT OF FOLLOW-UP

Management of bloodborne pathogen exposure is provided at no charge to employee and should be provided under the direction of a health care professional with knowledge and experience in the management of bloodborne pathogen post-exposure prophylaxis. When the exposure is deemed to be high risk for HIV exposure, experience and knowledge of the management of antiretroviral therapy is especially important.

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE INFORMATION - PAGE 2 OF 3

KNOWN OR SUSPECTED EXPOSURE TO HIV

HIV antibody testing should be performed on both the person who is the source of blood or body fluid and the exposed individual. The health care provider who is managing the post-exposure follow-up may recommend antiretroviral therapy pending the results of HIV laboratory testing. Information about the source that may indicate there is increased risk that the exposure may have involved HIV exposure must be communicated to the health care provider who is managing the exposure. When the source person is known to be HIV positive, this information plus all recent lab results (CD4+ T cell counts and HIV RNA levels) and antiretroviral therapy history should be provided to the health care provider who is managing the exposure.

The decision to recommend HIV post-exposure prophylaxis must take into account the nature of the exposure and the amount of blood or body fluid involved in the exposure. Pregnancy in the exposed individual presents another issue that must be taken into consideration. In addition, the potential for antiretroviral resistance must be considered.

Current recommendations for post-exposure prophylaxis include a basic 4-week regimen of two drugs (zidovudine and lamivudine) for most HIV exposures and an expanded regimen that includes the addition of a protease inhibitor (indinavir or nelfinavir) for HIV exposures that pose an increased risk of transmission or where antiretroviral resistant is known or suspected.

While undergoing post-exposure prophylaxis with antiretroviral therapy, side effects are not uncommon. Most side effects can be managed but some may be severe enough to require an alteration in regimen. While adherence to the regimen may be extremely important, some side effects may be serious and reporting of side effects is encouraged.

The exposed individual should seek medical evaluation (if possible, from the health care provider managing the post-exposure follow-up) for any acute illness that occurs during the follow-up period. An illness characterized by fever, rash, myalgia, fatigue, malaise, or lymphadenopathy may be indicative of acute HIV infection but also may be due to a drug reaction or another medical condition.

The individual with occupational exposure to HIV should receive post-exposure testing at baseline and at six weeks, twelve weeks, and six months after the exposure. Post-exposure testing should be performed regardless of whether antiretroviral therapy is taken.

HIV-occupationally exposed individuals should take precautions to prevent secondary transmission during the follow-up period (especially in the twelve weeks following the exposure): practice sexual abstinence to prevent sexual transmission or use latex condoms to decrease transmission risk; avoid pregnancy; refrain from donating blood, plasma, organs, tissue, or semen; do not share personal care items such as razors, toothbrushes, nail grooming equipment or drug works; and inform health care providers of exposure in the event that health care is provided during the follow-up.

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE INFORMATION - PAGE 3 OF 3

If the exposed individual is breast-feeding, it should be recognized that there is a risk for HIV transmission through breast milk. Discontinuation of breastfeeding during the follow-up period should be considered when an HIV exposure has occurred. In addition, discontinuation of breastfeeding should be considered when the occupationally exposed individual is taking antiretroviral therapy.

KNOWN OR SUSPECTED HEPATITIS B VIRUS EXPOSURE

BRDHD offers hepatitis B vaccine to employees at risk of occupational exposure. Employees who have previously declined vaccine are encouraged to reconsider this vaccine and informed that the option to receive hepatitis B vaccine remains available. In the event of a HBV exposure, hepatitis B vaccine may be recommended as post-exposure prophylaxis.

If an individual has had the hepatitis B vaccine series, was tested for immunity upon completing the series, and was found to be immune; no further action is needed to protect the individual from infection with HBV. Current recommendations from the Centers for Disease Control are to consider immunity following hepatitis B vaccine as lifelong immunity.

If and individual has experienced an occupational exposure to hepatitis B (the source of a bloodborne pathogen exposure is identified as HBsAg positive) and is unsure that immunity developed following vaccine administration or they have not received the complete hepatitis B vaccine series, it is important to determine the individuals immune status at this time, if possible. If considerable time has elapsed since the hepatitis B series was provided, testing for anti-HBs at this time may not be productive, as measurable immunity is known to decline in many individuals.

In the event the source is found to be or known to be HBsAg positive, Hepatitis B Immune Globulin and Hepatitis B Vaccine should be administered if the exposed individual does not have documented immunity to HBV. Effectiveness of these measures may be reduced by delay.

HBV- occupationally exposed individuals do not need to take any special precautions to prevent secondary transmission during the follow-up period; however, they should refrain from donating blood, plasma, organs, tissue, or semen.

KNOWN OR SUSPECTED HEPATITIS C EXPOSURE

In the event the source is found to be or known to be hepatitis C antibody positive there is no recommended post-exposure prophylaxis. However, recommendations for treatment of early infections are rapidly evolving and individuals occupationally exposed to HCV should be monitored and receive follow-up care if seroconversion occurs. The exposed individual should be followed with periodic hepatitis C antibody testing.

HCV- occupationally exposed individuals do not need to take any special precautions to prevent secondary transmission during the follow-up period; however, they should refrain from donating blood, plasma, organs, tissue, or semen. The exposed individual does not need to modify sexual practices or refrain from becoming pregnant. If an exposed woman is breastfeeding, she does not need to discontinue.

Reference: supplement to MMWR June 29, 2001 / vol.50 / No.RR-11

BARREN RIVER DISTRICT HEALTH DEPARTMENT
SOURCE (Patient) EXPOSURE RISK EVALUATION FORM

DATE: _____/_____/_____

SOURCE PATIENT NAME: _____

DOB: _____/_____/_____ AGE: _____

MALE_____ or FEMALE _____

TIME OF EXPOSURE: _____ AM/PM

TYPE OF EXPOSURE: (e.g., needlestick, splash to mucous membranes, etc.)

_____

EXPOSURE SITE: _____

Was exposure through gloves: Y / N

Risk Assessment of Source Patient:

Ask the source patient (or parent if applicable) the following and check yes or no:

Source (patient) History	YES	NO
Transfusions before 1989 or multiple, recent transfusion or transfusion dependent patient after 6 months		
Tattoos or body piercing		
History of or current intravenous drug user		
HIV positive		
Hepatitis B or C positive		
Multiple procedures (i.e., patients 20-40 years of age with different problems within the prior 6 months)		
Psych History(inpatient stay within the previous year or takes 2 psych drugs regularly)		
Multiple medications (history of taking multiple pain medications including anti-inflammatory drugs without a diagnosis of clear chronic disease pain)		
History of or currently has multiple sex partners		

NOTE: If source (patient) is under 18 years of age, parent(s) may also need to be screened for risks:

(See page 2)

BARREN RIVER DISTRICT HEALTH DEPARTMENT
SOURCE (Patient) EXPOSURE RISK EVALUATION FORM

Mother's History	YES	NO
Transfusions before 1989 or multiple, recent transfusion or transfusion dependent patient after 6 months		
Tattoos or body piercing		
History of or current intravenous drug user		
HIV positive		
Hepatitis B or C positive		
Multiple procedures (i.e., patients 20-40 years of age with different problems within the prior 6 months)		
Psych History(inpatient stay within the previous year or takes 2 psych drugs regularly)		
Multiple medications (history of taking multiple pain medications including anti-inflammatory drugs without a diagnosis of clear chronic disease pain)		
History of or currently has multiple sex partners		

Father's History	YES	NO
Transfusions before 1989 or multiple, recent transfusion or transfusion dependent patient after 6 months		
Tattoos or body piercing		
History of or current intravenous drug user		
HIV positive		
Hepatitis B or C positive		
Multiple procedures (i.e., patients 20-40 years of age with different problems within the prior 6 months)		
Psych History(inpatient stay within the previous year or takes 2 psych drugs regularly)		
Multiple medications (history of taking multiple pain medications including anti-inflammatory drugs without a diagnosis of clear chronic disease pain)		
History of or currently has multiple sex partners		

OCCUPATIONAL EXPOSURE TO BLOOD OR BODY FLUIDS
EMPLOYEE CONSENT / DECLINATION FORM

I have read ***Occupational Exposure to Blood or Body Fluids: Employee Information***, have had my questions answered and my signature below indicates that **I wish to participate in the procedures included in the investigation of this exposure. It is my understanding that decisions about post-exposure prophylaxis will be made based on the unique circumstances of this exposure event and that I will make the final decision about taking preventive treatment after consultation with a health care provider.**

Signature_____ Date_____

Witness _____ Date_____

CD Nurse Signature_____ Date_____

I have read ***Occupational Exposure to Blood or Body Fluids: Employee Information*** and have had my questions answered but **I do not wish to participate in the procedures included in the investigation of this exposure and do not wish to consult with a health care provider regarding the advisability of post-exposure prophylaxis. I assume full responsibility for this decision.**

Signature_____ Date_____

Witness _____ Date_____

CD Nurse Signature_____ Date_____

BARREN RIVER DISTRICT HEALTH DEPARTMENT
PHYSICIAN INFORMATION/EVALUATION FORM
FOR EMPLOYEE WITH BBP EXPOSURE

SUPERVISOR: Complete page 1 of this form with available information, and send with employee to: the closest **Medical Center Emergency Department. (Bowling Green, Franklin, Scottsville, or Horse Cave)**

1. Date & Time of Incident _____
2. Employee Name _____ SS# _____
3. D.O.B. _____
4. Employee code # assigned_____
5. Employee's Address _____
6. Hepatitis B Vaccine_____ yes _____no # of doses rec'd _____
7. Hepatitis B Surface Antibody (Anti-HBs):_____Immune Test Date: _____
   _____Non-Immune
   _____Unknown

Description of Exposure

1. Type of exposure:_____
2. Area exposed:_____
3. Body fluid involved: _____
4. Task/procedure being performed: _____
5. Immediate action taken: _____

Personal protective equipment (PPE) in use? ____yes ____no*

PPE size/type/brand of device: _____

*If no, explain_____

_____

SOURCE OF BLOOD OR BODY FLUID INFORMATION

1. Exposure source known? _____yes _____no
2. Source Code # assigned_____
3. Does source have known risk factors for exposure to bloodborne pathogens
   _____
4. Is source known to be high risk for Hepatitis? _____yes _____no _____unknown
   a. Hepatitis history if known _____
5. Is source known to be high risk for HIV/AIDS ____ yes _____no _____unknown
   a. HIV/AIDS history if known_____

Blood drawn for HBsAg, Anti-HCV*, and HIV antibody* ____ yes _____no

Date of lab draw_____

Note: If source positive Anti-HCV, RIBA confirmatory test and serum ALT will be requested.
If source is known HIV positive, HIV RNA levels, CD4+ T cell counts, & antiretroviral drug history will be requested for the exposed employee's health care provider.

Clinician please complete section on reverse side

Rev. 07/2016

BARREN RIVER DISTRICT HEALTH DEPARTMENT
PHYSICIAN INFORMATION/EVALUATION FORM
FOR EMPLOYEE WITH BBP EXPOSURE

PHYSICIAN TREATMENT SECTION:

Clinician obtain labs, complete this page, sign and return:

8. Standard labs to be drawn per BRDHD protocol: HIV*, hepatitis B surface antigen, hepatitis B core antibody, quantitative hepatitis B surface antibody, hepatitis C antibody, and ALT.

   *If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.

9. Treatment recommended/provided: (*Please include if PEP is recommended and if employee accepts or declines)*
   _____
   _____
   _____
   _____
   _____

9. Needs follow-up with me on_____.

   _____Employee has been counseled per BRDHD post exposure follow-up protocol - Item K, Section VIII

_____ _____
Clinician signature Date

Return this form to this address:

Please return within 72 hours of visit.

Barren River District Health Department
Attention: Communicable Disease Division
1109 State Street - PO Box 1157
Bowling Green, KY 42102-1157
Phone: 781-8039 Fax: 796-8946

Rev. 07/2016

BARREN RIVER DISTRICT HEALTH DEPARTMENT
REPORT OF EMPLOYEE BLOODBORNE PATHOGEN EXPOSURE

EMPLOYEE INFORMATION

Employee Name:_____ Health Center:_____ Position: _____

Date of Exposure: _____ Time: _____ Location: _____

Code # Assigned: _____ Consent Signed: _____

Employee has received ____ doses of Hepatitis B Vaccine Date of Last Dose: _____

Post-vaccine testing: _____ Date: _____ Results: _____

Blood drawn for HIV antibody on _____ Results _____.

Blood drawn for anti-HBsAb on _____ Results _____.

Blood drawn for anti-HCV on _____ Results_____ _____.

Note: Positive Anti-HCV must be confirmed by RIBA _____ and a serum ALT drawn _____.

Health Care Provider Managing Employee: _____ Ph. # _____

Comments:_____

_____

PATIENT (SOURCE OF BLOOD OR BODY FLUID) INFORMATION

Name: _____ I.D.# _____ Birth date: _____

Code # Assigned _____ Consent Signed: _____

Physician's Name: _____ Office PH.# : _____

Hepatitis History (if known) _____

HIV / AIDS History (if known) _____

Known risk factors for exposure to bloodborne pathogens _____

Blood drawn for HIV antibody on _____ Results _____.

Blood drawn for HBs Ag, anti-HBs, Anti-HBc on _____ Results _____

Blood drawn for anti-HCV on _____ Results_____ _____.

Note: Positive Anti-HCV must be confirmed by RIBA _____ and a serum ALT drawn _____.

If the patient is known to be HIV positive, record recent HIV RNA levels, CD4+ T cell counts, and antiretroviral drug history: _____

_____

DESCRIBE EXPOSURE (Body fluid involved, route of exposure, site {part of body} exposed, how event occurred, immediate action taken):_____

_____

_____

Personal protective equipment in use? ____yes ____no

If no, explain_____

_____

PPE size/type/brand of device_____

Employee Signature_____ Date _____

Investigation conducted by: _____ Communicable Disease Division Nurse

Personnel Director Signature _____ Date _____

Barren River District Health Department

Acknowledgement of Counseling and Education

Source of BBP Exposure

I understand that a healthcare worker, student, or other individual has been exposed to my blood or body fluids and that my blood is being drawn to test for infectious diseases including viral hepatitis and HIV. I understand that there is a window period where I may have an infectious disease, but it is not yet showing in my laboratory test results, and that due to other factors, there is a chance for false negative or false positive test results. I have been counseled and received education in regards to the Bloodborne Pathogen Exposure process and have been given the opportunity to clarify information and ask questions.

I understand I will not be charged for these tests and confidentiality will be maintained to the extent that only those individuals with a right to know will be informed of my test results (my care givers, public health authorities as required by law, and the exposed person). I understand that any necessary actions indicated by my test results, should be provided by my primary health care provider.

Signature _____ Date:_____

Witness _____ Date: _____

HIV post-exposure prophylaxis resources and registries

Resource or Registry	Contact Information
National Clinicians' Post-exposure Hotline	Phone: (888) 448-4911 Internet: http://www.ucsf.edu/hivcntr
Antiretroviral Pregnancy Registry	Phone:(800) 258-4263 Fax: (800) 800-1052 Address: 1410 Commonwealth Drive Suite 215 Wilmington, NC 28405 Internet: http://www.glaxowellcome.com/preg_reg/antiretroviral
Food and Drug Administration (for reporting unusual or severe toxic reactions to antiretroviral agents)	Phone: (800) 332-1088 Address: MedWatch HF-2, FDA 5600 Fishers Lane Rockville, MD 20857 Internet: http://www.fda.gov/medwatch

Adapted from:
May 15, 1998 supplement to MMWR Vol.47/No.RR-7
Updated from:
June 29, 2001 supplement to MMWR Vol. 50/No.RR-11

Table 1

TABLE 1. Recommended HIV postexposure prophylaxis (PEP) for percutaneous injuries

Exposure type	Infection status of source: HIV-positive, class 1*	HIV-positive, class 2*	Source of unknown HIV status†	Unknown source§	HIV-negative
Less severe¶	Recommend basic 2-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††	Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely	No PEP warranted
More severe§§	Recommend expanded 3-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP** for source with HIV risk factors††	Generally, no PEP warranted; however, consider basic 2-drug PEP** in settings in which exposure to HIV-infected persons is likely	No PEP warranted

* HIV-positive, class 1 — asymptomatic HIV infection or known low viral load (e.g., <1,500 ribonucleic acid copies/mL). HIV-positive, class 2 — symptomatic HIV infection, acquired immunodeficiency syndrome, acute seroconversion, or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of PEP should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.

† For example, deceased source person with no samples available for HIV testing.

§ For example, a needle from a sharps disposal container.

¶ For example, solid needle or superficial injury.

** The recommendation "consider PEP" indicates that PEP is optional; a decision to initiate PEP should be based on a discussion between the exposed person and the treating clinician regarding the risks versus benefits of PEP.

†† If PEP is offered and administered and the source is later determined to be HIV-negative, PEP should be discontinued.

§§ For example, large-bore hollow needle, deep puncture, visible blood on device, or needle used in patient's artery or vein.

Table 2

TABLE 2. Recommended HIV postexposure prophylaxis (PEP) for mucous membrane exposures and nonintact skin* exposures

Exposure type	Infection status of source: HIV-positive, class 1†	HIV-positive, class 2†	Source of unknown HIV status§	Unknown source¶	HIV-negative
Small volume**	Consider basic 2-drug PEP††	Recommend basic 2-drug PEP	Generally, no PEP warranted§§	Generally, no PEP warranted	No PEP warranted
Large volume¶¶	Recommend basic 2-drug PEP	Recommend expanded ≥3-drug PEP	Generally, no PEP warranted; however, consider basic 2-drug PEP†† for source with HIV risk factors§§	Generally, no PEP warranted; however, consider basic 2-drug PEP†† in settings in which exposure to HIV-infected persons is likely	No PEP warranted

* For skin exposures, follow-up is indicated only if evidence exists of compromised skin integrity (e.g., dermatitis, abrasion, or open wound).

† HIV-positive, class 1 — asymptomatic HIV infection or known low viral load (e.g., <1,500 ribonucleic acid copies/mL). HIV-positive, class 2 — symptomatic HIV infection, AIDS, acute seroconversion, or known high viral load. If drug resistance is a concern, obtain expert consultation. Initiation of PEP should not be delayed pending expert consultation, and, because expert consultation alone cannot substitute for face-to-face counseling, resources should be available to provide immediate evaluation and follow-up care for all exposures.

§ For example, deceased source person with no samples available for HIV testing.

¶ For example, splash from inappropriately disposed blood.

** For example, a few drops.

†† The recommendation "consider PEP" indicates that PEP is optional; a decision to initiate PEP should be based on a discussion between the exposed person and the treating clinician regarding the risks versus benefits of PEP.

§§ If PEP is offered and administered and the source is later determined to be HIV-negative, PEP should be discontinued.

¶¶ For example, a major blood splash.

Table 3

TABLE 3. Primary side effects and toxicities associated with antiretroviral agents used for HIV postexposure prophylaxis, by class and agent

Class and agent	Side effect and toxicity
Nucleoside reverse transcriptase inhibitors (NRTI)	**Class warning: all NRTIs have the potential to cause lactic acidosis with hepatic steatosis**
Zidovudine (Retrovir®; ZDV, AZT)	Anemia, neutropenia, nausea, headache, insomnia, muscle pain, and weakness
Lamivudine (Epivir®, 3TC)	Abdominal pain, nausea, diarrhea, rash, and pancreatitis
Stavudine (Zerit™; d4T)	Peripheral neuropathy, headache, diarrhea, nausea, insomnia, anorexia, pancreatitis, elevated liver function tests (LFTs), anemia, and neutropenia
Didanosine (Videx®; ddI)	Pancreatitis, lactic acidosis, neuropathy, diarrhea, abdominal pain, and nausea
Emtricitabine (Emtriva, FTC)	Headache, nausea, vomiting, diarrhea, and rash. Skin discoloration (mild hyperpigmentation on palms and soles), primarily among nonwhites
Nucleotide analogue reverse transcriptase inhibitor (NtRTI)	**Class warning: All NtRTIs have the potential to cause lactic acidosis with hepatic steatosis**
Tenofovir (Viread®; TDF)	Nausea, diarrhea, vomiting, flatulence, and headache
Nonnucleoside reverse transcriptase inhibitors (NNRTIs)	
Efavirenz (Sustiva®; EFV)	Rash (including cases of Stevens-Johnson syndrome), insomnia, somnolence, dizziness, trouble concentrating, abnormal dreaming, and teratogenicity
Protease inhibitor	
Indinavir (Crixivan®; IDV)	Nausea, abdominal pain, nephrolithiasis, and indirect hyperbilirubinemia
Nelfinavir (Viracept®; NFV)	Diarrhea, nausea, abdominal pain, weakness, and rash
Ritonavir (Norvir®; RTV)	Weakness, diarrhea, nausea, circumoral paresthesia, taste alteration, and elevated cholesterol and triglycerides
Saquinavir (Invirase®; SQV)	Diarrhea, abdominal pain, nausea, hyperglycemia, and elevated LFTs
Fosamprenavir (Lexiva®; FOSAPV)	Nausea, diarrhea, rash, circumoral paresthesia, taste alteration, and depression
Atazanavir (Reyataz®; ATV)	Nausea, headache, rash, abdominal pain, diarrhea, vomiting, and indirect hyperbilirubinemia
Lopinavir/ritonavir (Kaletra®; LPV/RTV)	Diarrhea, fatigue, headache, nausea, and increased cholesterol and triglycerides
Fusion inhibitor	
Enfuvirtide (Fuzeon®; T-20)	Local injection site reactions, bacterial pneumonia, insomnia, depression, peripheral neuropathy, and cough

Sources: Package inserts; Panel on Clinical Practices for Treatment of HIV Infection. Guidelines for the use of antiretroviral agents in HIV-infected adults and adolescents—April 7, 2005. Washington, DC: National Institutes of Health; 2005. Available at http://aidsinfo.nih.gov/guidelines/default_db2.asp?id=50.

Table 4

TABLE 4. Prescription and over-the-counter drugs that should not be administered with protease inhibitors (PIs) because of drug interactions*

Drug	Comment
Antimycobacterials: rifampin	Decreases plasma concentrations and area under plasma concentration curve of the majority of PIs by approximately 90%, which might result in loss of therapeutic effect and development of resistance
Benzodiazepines: midazolam, triazolam	Contraindicated because of potential for serious or life-threatening events (e.g., prolonged or increased sedation or respiratory depression)
Ergot derivatives: dihydroergotamine, ergotamine, ergonovine, methylergonovine	Contraindicated because of potential for serious or life-threatening events (e.g., acute ergot toxicity characterized by peripheral vasospasm and ischemia of the extremities and other tissues)
Gastrointestinal motility agent: cisapride	Contraindicated because of potential for serious or life-threatening events (e.g., cardiac arrhythmias)
HMG-CoA reductase inhibitors ("statins"): lovastatin, simvastatin	Potential for serious reactions (e.g., myopathy, including rhabdomyolysis); atorvastatin may be used cautiously, beginning with lowest possible starting dose, and monitoring for adverse events
Neuroleptic: pimozide	Contraindicated because of potential for serious or life-threatening events (e.g., cardiac arrhythmias)
Inhaled steroids: fluticasone	Coadministration of fluticasone and ritonavir-boosted protease inhibitors are not recommended unless the potential benefit to the patient outweighs the risk for systemic corticosteroid side effect
Herbal products:	
St. John's wort (hypericum perforatum)	Coadministration might reduce plasma concentrations of protease inhibitors, which might result in loss of therapeutic effect and development of resistance
garlic	Garlic might lower saquinavir level

* This table does not list all products that should not be administered with PIs (atazanavir, lopinavir/ritonavir, fosamprenavir, indinavir, nelfinavir, saquinavir). Product labels should be consulted for additional information regarding drug interactions.

Sources: US Department of Health and Human Services. Guidelines for the use of antiretroviral agents in HIV-1-infected adults and adolescents. Washington, DC: US Department of Health and Human Services; 2005. Available at http://www.aidsinfo.nih.gov/guidelines/adult/AA_040705.pdf; University of California at San Francisco Center for HIV Information. Database of antiretroviral drug interactions. Available at http://hivinsite.ucsf.edu/InSite?page=ar-00-02.

Table 6

TABLE 6. Reported instances of failure of combination drug postexposure prophylaxis (PEP) to prevent HIV-infection among health-care personnel exposed to HIV-infected blood through percutaneous injury

Year of incident	Device	PEP regimen*	Time to first dose (hrs)	No. of days to onset of retroviral illness	No. of days to document seroconversion†	Source-patient		
						HIV-infection status	On anti retrovirals	Virus resistant to antiretrovirals§
1992¶	Biopsy needle	ZDV, ddI	0.5	23	23	AIDS, terminally ill	Yes	Unknown
1996**	Hollow-bore needle	ZDV, ddI††	1.5	45	97	Asymptomatic HIV infection	No	Not tested
1997**	Large or hollow-bore needle	ZDV, 3TC, IDV§§	1.5	40	55	AIDS	Yes	No
1998¶¶	Hollow-bore needle	ZDV, 3TC, ddI, IDV	0.7	70	83	AIDS	Yes	Yes
1999***	Unknown sharp	ddI, d4T, NVP†††	2.0	42	100	AIDS	Yes	Yes
2001§§§	Phlebotomy needle	ZDV, 3TC, IDV¶¶¶	1.6	24	~90	AIDS	Yes	Yes

* ZDV = zidovudine; ddI = didanosine; 3TC = lamivudine; IDV = indinavir; d4T = stavudine; and NVP = nevirapine.

† By enzyme immunoassay for HIV-1 antibody and Western blot.

§ By genotypic or phenotypic resistance testing.

¶ **Source:** Jochimsen EM. Failures of zidovudine postexposure prophylaxis. Am J Med 1997;102(Suppl 5B):52–5.

** **Source:** Lot F, Abiteboul D. Occupational infections with HIV in France among health-care personnel [French]. Bull Epi Hebdom 1999;18:69–70.

†† ZDV and ddI taken for 48 hours and then changed to ZDV alone.

§§ ZDV, 3TC, and IDV taken for 48 hours and then changed to d4T, 3TC, and IDV.

¶¶ **Source:** Perdue B, Wolde Rufael D, Mellors J, Quinn T, Margolick J. HIV-1 transmission by a needlestick injury despite rapid initiation of four-drug postexposure prophylaxis [Abstract no 210]. In: Program and abstracts of the 6th Conference on Retroviruses and Opportunistic Infections. Chicago, IL: Foundation for Retrovirology and Human Health; 1999.

*** **Source:** Beltrami EM, Luo C-C, de la Torre N, Cardo DM. Transmission of drug-resistant HIV after an occupational exposure despite postexposure prophylaxis with a combination drug regimen. Infect Control Hosp Epidemiol 2002;23:345–8; CDC, unpublished data, 1999.

††† ZDV and 3TC taken for 1 dose and then changed to ddI, d4T, and NVP; ddI was discontinued after 3 days as a result of severe vomiting.

§§§ **Source:** Hawkins DA, Asboe D, Barlow K, Evans B. Seroconversion to HIV-1 following a needlestick injury despite combination post-exposure prophylaxis. J Infect 2001;43:12–5.

¶¶¶ ZDV, 3TC, and IDV initially and then changed after first dose to d4T, ddI, and NVP; then ddI discontinued after 8 days; and d4T and NVP taken for 4 weeks.

Hepatitis B Tests and Interpretation

What are the various serologic tests for hepatitis B?

Table 1: Hepatitis B laboratory nomenclature	
HBsAg:	*Hepatitis B surface antigen* is a marker of infectivity. Its presence indicates either acute or chronic HBV infection.
anti-HBs:	*Antibody to hepatitis B surface antigen* is a marker of immunity. Its presence indicates an immune response to HBV infection, an immune response to vaccination, or the presence of passively acquired antibody. (It is also known as ***HBsAb,*** but this abbreviation is best avoided since it is often confused with abbreviations such as HBsAg.)
anti-HBc (total):	*Antibody to hepatitis B core antigen* is a nonspecific marker of acute, chronic, or resolved HBV infection. It is not a marker of vaccine-induced immunity. It may be used in prevaccination testing to determine previous exposure to HBV infection. (It is also known as ***HBcAb***, but this abbreviation is best avoided since it is often confused with other abbreviations.)
IgM anti-HBc:	*IgM antibody subclass of anti-HBc.* Positivity indicates recent infection with HBV (≤6 mos). Its presence indicates acute infection.
HBeAg:	*Hepatitis B "e" antigen* is a marker of a high degree of HBV infectivity, and it correlates with a high level of HBV replication. It is primarily used to help determine the clinical management of patients with chronic HBV infection.
Anti-HBe:	*Antibody to hepatitis B "e" antigen* may be present in an infected or immune person. In persons with chronic HBV infection, its presence suggests a low viral titer and a low degree of infectivity.
HBV-DNA:	*HBV Deoxyribonucleic acid* is a marker of viral replication. It correlates well with infectivity. It is used to assess and monitor the treatment of patients with chronic HBV infection.

How do I interpret some of the common hepatitis B panel results?

Table 2: Hepatitis B laboratory panel

Tests	Results	Interpretation	Vaccinate?
HBsAg anti-HBc anti-HBs	negative negative negative	susceptible	vaccinate if indicated
HBsAg anti-HBc anti-HBs	negative negative positive with ≥10mIU/mL*	immune due to vaccination	no vaccination necessary
HBsAg anti-HBc anti-HBs	negative positive positive	immune due to natural infection	no vaccination necessary
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive positive negative	acutely infected	no vaccination necessary
HBsAg anti-HBc IgM anti-HBc anti-HBs	positive positive negative negative	chronically infected	no vaccination necessary (may need treatment)
HBsAg anti-HBc anti-HBs	negative positive negative	four interpretations possible†	use clinical judgment

* Postvaccination testing, when it is recommended, should be performed 1-2 months after the last dose of vaccine. Infants born to HBsAg-positive mothers should be tested for HBsAg and anti-HBs after completion of at least 3 doses of a licensed hepatitis B vaccination series, at age 9-18 months (generally at the next well child visit).

†1. May be recovering from acute HBV infection

2. May be distantly immune, but the test may not be sensitive enough to detect a very low level of anti-HBs in serum

3. May be susceptible with a false positive anti-HBc

4. May be chronically infected and have an undetectable level of HBsAg present in the serum

Interpretation of Hepatitis B Serologic Test Results

Hepatitis B serologic testing involves measurement of several hepatitis B virus (HBV)-specific antigens and antibodies. Different serologic "markers" or combinations of markers are used to identify different phases of HBV infection and to determine whether a patient has acute or chronic HBV infection, is immune to HBV as a result of prior infection or vaccination, or is susceptible to infection.

HBsAg **anti-HBc** **anti-HBs**	negative negative negative	Susceptible
HBsAg **anti-HBc** **anti-HBs**	negative positive positive	Immune due to natural infection
HBsAg **anti-HBc** **anti-HBs**	negative negative positive	Immune due to hepatitis B vaccination
HBsAg **anti-HBc** **IgM anti-HBc** **anti-HBs**	positive positive positive negative	Acutely infected
HBsAg **anti-HBc** **IgM anti-HBc** **anti-HBs**	positive positive negative negative	Chronically infected
HBsAg **anti-HBc** **anti-HBs**	negative positive negative	Interpretation unclear; four possibilities: 1. Resolved infection (most common) 2. False-positive anti-HBc, thus susceptible 3. "Low level" chronic infection 4. Resolving acute infection

Adapted from: A Comprehensive Immunization Strategy to Eliminate Transmission of Hepatitis B Virus Infection in the United States: Recommendations of the Advisory Committee on Immunization Practices. Part I: Immunization of Infants, Children, and Adolescents. MMWR 2005;54(No. RR-16).

- **Hepatitis B surface antigen (HBsAg):** A protein on the surface of hepatitis B virus; it can be detected in high levels in serum during acute or chronic hepatitis B virus infection. The presence of HBsAg indicates that the person is infectious. The body normally produces antibodies to HBsAg as part of the normal immune response to infection. HBsAg is the antigen used to make hepatitis B vaccine.
- **Hepatitis B surface antibody (anti-HBs):** The presence of anti-HBs is generally interpreted as indicating recovery and immunity from hepatitis B virus infection. Anti-HBs also develops in a person who has been successfully vaccinated against hepatitis B.
- **Total hepatitis B core antibody (anti-HBc):** Appears at the onset of symptoms in acute hepatitis B and persists for life. The presence of anti-HBc indicates previous or ongoing infection with hepatitis B virus in an undefined time frame.
- **IgM antibody to hepatitis B core antigen (IgM anti-HBc):** Positivity indicates recent infection with hepatitis B virus (≤6 mos). Its presence indicates acute infection.

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Centers for Disease Control and Prevention
Division of Viral Hepatitis

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Recommendations for hepatitis B prophylaxis following percutaneous or permucosal exposure.

Exposed Person	Source HBsAg Positive	Source HBsAg Negative	Source Unknown or not tested
Unvaccinated	Administer HBIG x 1* and initiate hepatitis B vaccine series†	Initiate hepatitis B vaccine series†	Initiate hepatitis B vaccine series†
Previously vaccinated - Known responder	No treatment	No treatment	No treatment
Known non-responder	HBIG x 1, initiate revaccination of hepatitis B vaccine or HBIG x 2‡	No treatment	If known high-risk source, treat as if source were HBsAg positive
Antibody response unknown	Test exposed employee for anti-HBs¶ 1. If adequate, no treatment 2. If inadequate HBIG* x 1, plus hepatitis B vaccine booster dose†.	No treatment	Test exposed employee for anti-HBs¶ 1. If adequate, no treatment 2. If inadequate, hepatitis B vaccine† booster dose and recheck anti-HBs in 1-2 months.

* Hepatitis B immune globulin (HBIG) dose 0.06 mL/kg intramuscularly.

† Hepatitis B vaccine dose - see package insert.

¶ Adequate anti-HBs is $\geq$ 10 mIU/ml.

‡ The option of giving 1 dose of HBIG and reinitiating the vaccine series is preferred for non-responders who have not completed a second 3-dose vaccine series. For persons who previously completed a second vaccine series but failed to respond, two doses of HBIG are preferred. Known responder is defined as a person with adequate serum levels of anti-HBs.

Adapted from CDC Personnel Health Guideline. Bolyard, E. A. Tablan, O. C., Williams, W. W., Pearson, M. L., Shapiro, C. N., Deitchman, S. D., and the Hospital Infection Control Practices Advisory Committee. Guideline for infection control in health care personnel, 1998. American Journal of Infection Control, 26, 289-354,
June 29, 2001 supplement to MMWR Vol. 50/No.RR-11.

Hepatitis A, B, and C: Learn the Differences

	Hepatitis A caused by the hepatitis A virus (HAV)	Hepatitis B caused by the hepatitis B virus (HBV)	Hepatitis C caused by the hepatitis C virus (HCV)
How is it spread?	HAV is found in the feces of people with hepatitis A and is usually spread by close personal contact (including sex or sharing a household). It can also be spread by eating food or drinking water contaminated with HAV.	HBV is found in blood and certain body fluids. The virus is spread when blood or body fluid from an infected person enters the body of a person who is not immune. HBV is spread through having unprotected sex with an infected person, sharing needles or "works" when shooting drugs, exposure to needlesticks or sharps on the job, or from an infected mother to her baby during birth. Exposure to infected blood in ANY situation can be a risk for transmission.	HCV is found in blood and certain body fluids. The virus is spread when blood or body fluid from an HCV-infected person enters another person's body. HCV is spread through sharing needles or "works" when shooting drugs, through exposure to needlesticks or sharps on the job, or sometimes from an infected mother to her baby during birth. It is possible to transmit HCV during sex, but it is not common.
Who should be vaccinated?	• All children at age 1 year (i.e., 12–23 mos.) • Older children in cities and states where routine hepatitis A vaccination is recommended • Household contacts of infected persons • Sex partners of infected persons • Persons traveling to countries where hepatitis A is common (all except Canada, Western Europe, Japan, Australia, and New Zealand) • Men who have sex with men • Injecting and non-injecting drug users • Persons with chronic liver disease • Any person who wants protection from HAV infection	• All children and teens ages 0–18 years • Healthcare & public safety workers who might be exposed to blood • International travelers to moderate- or high-risk areas of the world • Household contacts of chronically (life-long) infected persons • Immigrants & children of immigrants from areas with elevated HBV rates, such as Asia, Africa, the Pacific Islands, Eastern Europe • Sexually active persons who are not in long-term mutually monogamous relationships • Persons diagnosed with a sexually transmitted disease • Men who have sex with men • Sex partners of HBV-infected persons • Injecting drug users • Persons with severe kidney disease (including predialysis/dialysis) • All persons who wish to be protected from HBV infection	**Who should be tested?** • Injecting drug users • Recipients of clotting factors made before 1987 • Hemodialysis patients • Recipients of blood or solid organ transplants before 1992 • Infants born to HCV-infected mothers • People with undiagnosed abnormal liver test results Although HCV is not commonly spread through sex, persons having sex with multiple partners or with an infected steady partner may be at increased risk of HCV infection. There is no vaccine for hepatitis C.
What if you are infected?	The only way to know if you have already been infected is to have your blood tested for HAV, HBV, or HCV infection. If you are concerned about your risk, talk to your healthcare provider about your need for blood testing. Viral hepatitis symptoms are similar no matter which type of hepatitis you have. If symptoms occur, you might experience any or all of the following: jaundice (yellowing of the skin and whites of the eyes), fever, loss of appetite, fatigue, dark urine, joint pain, abdominal pain, diarrhea, nausea, and vomiting. Very rarely, a recently acquired case of viral hepatitis can cause liver failure and death. Sometimes in these instances, a liver transplant (if a liver is available) can save a life. Note: For all types of viral hepatitis, symptoms are less common in children than in adults, and for people of any age with HCV infection, they are less likely to experience symptoms.		
	Incubation period: 15 to 50 days, average 28 days There is no chronic infection. Once you have had HAV infection, you cannot get it again. About 15 out of 100 people infected with HAV will have prolonged illness or relapsing symptoms over a 6–9 month period.	**Incubation period:** 45 to 160 days, average 120 days Chronic infection occurs in up to 90% of infants infected at birth; in 30% of children infected at ages 1–5 years;and in up to 6% of persons infected after age 5 years. In the U.S., 5,000 people die each year from hepatitis B. Death from chronic liver disease occurs in 15%–25% of chronically infected persons. People who have chronic HBV infection have a much higher risk of liver failure and liver cancer.	**Incubation period:** 14 to 180 days, average 45 days Chronic infection occurs in 55%–85% of infected persons and 70% of chronically infected persons go on to develop chronic liver disease. In the U.S., 8–10,000 people die each year from hepatitis C. People who have chronic HCV infection have a much higher risk of liver failure and liver cancer. Chronic HCV-related liver disease is the leading cause for liver transplant.
What treatment helps?	• There is no treatment for hepatitis A other than supportive care. • Avoid alcohol. It can worsen liver disease.	• Persons with chronic HBV infection should have a medical evaluation for liver disease every 6–12 months. Several antiviral medications are currently licensed for the treatment of persons with chronic hepatitis B. These drugs are effective in preventing serious liver problems in up to 40% of patients, but the drugs do not get rid of the virus. Liver transplant is the last resort, but livers are not always available. • Avoid alcohol. It can worsen liver disease. • There is no medication to treat recently acquired HBV infection.	• Persons with chronic HCV infection should have a medical evaluation for liver disease every 6–12 months. There are drugs licensed for the treatment of persons with chronic hepatitis C. Combination therapy is currently the treatment of choice and can eliminate the virus in approximately 50% of patients with genotype 1 (the most common genotype in the U.S.). • Get vaccinated against hepatitis A and B. • Avoid alcohol. It can worsen liver disease. • There is no medication for the treatment of recently acquired hepatitis C.
How is it prevented?	• Hepatitis A vaccination is the best protection. Vaccination is recommended for all children at age 1 year (i.e., 12–23 months), for older children who live in areas where hepatitis A vaccination programs are in place, for persons listed in risk groups (see above), and for any person who wishes to be protected from hepatitis A. • For a recent exposure to someone with HAV or if travel is soon (leaving in less than 4 weeks) to an area of the world where hepatitis A is common, see your healthcare provider about your need for a dose of immune globulin (IG). • Always wash your hands with soap after using the toilet, changing a diaper, and before preparing and eating food. • Hepatitis A vaccine can be administered to any person age 1 year or older who wants to be protected from HAV infection.	• Hepatitis B vaccination is the best protection. Routine vaccination is recommended for all persons 0–18 years of age, for all newborns at birth before hospital discharge, for persons of all ages who are in risk groups for HBV infection (see above), and for any person who desires protection from hepatitis B. • Whenever a woman is pregnant, she should be tested for hepatitis B; infants born to HBV-infected mothers should be given HBIG (hepatitis B immune globulin) and vaccine within 12 hours of birth. • Persons who are not in mutually monogamous relationships should use latex condoms correctly and for every sexual encounter. (The efficacy of latex condoms in preventing infection with HBV is unknown, but their proper use may reduce transmission.)	• There is no vaccine to prevent hepatitis C. • HCV can be spread by sex, but this is not common. If you are not in a mutually monogamous relationship, use latex condoms correctly and every time to prevent the spread of sexually transmitted diseases. (The efficacy of latex condoms in preventing HCV infection is unknown, but their proper use may reduce transmission.) In addition to getting hepatitis A vaccine, you should also get hepatitis B vaccine.
		More information to help you prevent hepatitis B and hepatitis C: • Don't share personal care items that might have blood on them, such as razors, toothbrushes, and washcloths. • Consider the risks if you are thinking about getting a tattoo or body piercing. You might get infected if the tools or dye have someone else's blood on them or if the artist or piercer does not follow good sterilization practices. • Healthcare or public safety workers should always follow routine barrier precautions and safely handle needles and other sharps. In addition, they should be vaccinated against hepatitis B. • If you have or have had HBV or HCV infection, do not donate blood, organs, or tissue. • Don't shoot drugs. If you do, try to stop by getting into a treatment program. If you can't stop, never share drugs, needles, or "works" (syringes, water, spoons, or cotton). Get vaccinated against hepatitis A and B.	

Technical content reviewed by the Centers for Disease Control and Prevention, Jan. 2007.

www.immunize.org/catg.d/p4075abc.pdf • Item #P4075 (1/07)

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VACCINE INFORMATION STATEMENT

Hepatitis B Vaccine

What You Need to Know

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 What is hepatitis B?

Hepatitis B is a serious infection that affects the liver. It is caused by the hepatitis B virus.

- In 2009, about 38,000 people became infected with hepatitis B.
- Each year about 2,000 to 4,000 people die in the United States from cirrhosis or liver cancer caused by hepatitis B.

Hepatitis B can cause:

Acute (short-term) illness. This can lead to:

- loss of appetite
- diarrhea and vomiting
- tiredness
- jaundice (yellow skin or eyes)
- pain in muscles, joints, and stomach

Acute illness, with symptoms, is more common among adults. Children who become infected usually do not have symptoms.

Chronic (long-term) infection. Some people go on to develop chronic hepatitis B infection. Most of them do not have symptoms, but the infection is still very serious, and can lead to:

- liver damage (cirrhosis)
- liver cancer
- death

Chronic infection is more common among infants and children than among adults. People who are chronically infected can spread hepatitis B virus to others, even if they don't look or feel sick. Up to 1.4 million people in the United States may have chronic hepatitis B infection.

Hepatitis B virus is easily spread through contact with the blood or other body fluids of an infected person. People can also be infected from contact with a contaminated object, where the virus can live for up to 7 days.

- A baby whose mother is infected can be infected at birth;
- Children, adolescents, and adults can become infected by:
  - contact with blood and body fluids through breaks in the skin such as bites, cuts, or sores;
  - contact with objects that have blood or body fluids on them such as toothbrushes, razors, or monitoring and treatment devices for diabetes;
  - having unprotected sex with an infected person;
  - sharing needles when injecting drugs;
  - being stuck with a used needle.

2 Hepatitis B vaccine: Why get vaccinated?

Hepatitis B vaccine can prevent hepatitis B, and the serious consequences of hepatitis B infection, including liver cancer and cirrhosis.

Hepatitis B vaccine may be given by itself or in the same shot with other vaccines.

Routine hepatitis B vaccination was recommended for some U.S. adults and children beginning in 1982, and for all children in 1991. Since 1990, new hepatitis B infections among children and adolescents have dropped by more than 95%—and by 75% in other age groups.

Vaccination gives long-term protection from hepatitis B infection, possibly lifelong.

3 Who should get hepatitis B vaccine and when?

Children and adolescents

- Babies normally get 3 doses of hepatitis B vaccine:

  1st Dose: Birth
  2nd Dose: 1-2 months of age
  3rd Dose: 6-18 months of age

  Some babies might get 4 doses, for example, if a combination vaccine containing hepatitis B is used. (This is a single shot containing several vaccines.) The extra dose is not harmful.

- Anyone through 18 years of age who didn't get the vaccine when they were younger should also be vaccinated.

Adults

- All unvaccinated adults at risk for hepatitis B infection should be vaccinated. This includes:
  - sex partners of people infected with hepatitis B,
  - men who have sex with men,
  - people who inject street drugs,
  - people with more than one sex partner,
  - people with chronic liver or kidney disease,
  - people under 60 years of age with diabetes,
  - people with jobs that expose them to human blood or other body fluids,

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- household contacts of people infected with hepatitis B,
- residents and staff in institutions for the developmentally disabled,
- kidney dialysis patients,
- people who travel to countries where hepatitis B is common,
- people with HIV infection.

- Other people may be encouraged by their doctor to get hepatitis B vaccine; for example, adults 60 and older with diabetes. Anyone else who wants to be protected from hepatitis B infection may get the vaccine.
- Pregnant women who are at risk for one of the reasons stated above should be vaccinated. Other pregnant women who want protection may be vaccinated.

Adults getting hepatitis B vaccine should get 3 doses—with the second dose given 4 weeks after the first and the third dose 5 months after the second. Your doctor can tell you about other dosing schedules that might be used in certain circumstances.

4 Who should not get hepatitis B vaccine?

- Anyone with a life-threatening allergy to yeast, or to any other component of the vaccine, should not get hepatitis B vaccine. Tell your doctor if you have any severe allergies.
- Anyone who has had a life-threatening allergic reaction to a previous dose of hepatitis B vaccine should not get another dose.
- Anyone who is moderately or severely ill when a dose of vaccine is scheduled should probably wait until they recover before getting the vaccine.

Your doctor can give you more information about these precautions.

Note: You might be asked to wait 28 days before donating blood after getting hepatitis B vaccine. This is because the screening test could mistake vaccine in the bloodstream (which is not infectious) for hepatitis B infection.

5 What are the risks from hepatitis B vaccine?

Hepatitis B is a very safe vaccine. Most people do not have any problems with it.

The vaccine contains non-infectious material, and cannot cause hepatitis B infection.

Some mild problems have been reported:

- Soreness where the shot was given (up to about 1 person in 4).
- Temperature of 99.9°F or higher (up to about 1 person in 15).

Severe problems are extremely rare. Severe allergic reactions are believed to occur about once in 1.1 million doses.

A vaccine, like any medicine, could cause a serious reaction. But the risk of a vaccine causing serious harm, or death, is extremely small. More than 100 million people in the United States have been vaccinated with hepatitis B vaccine.

6 What if there is a serious reaction?

What should I look for?

- Look for anything that concerns you, such as signs of a severe allergic reaction, very high fever, or behavior changes.

  Signs of a severe allergic reaction can include hives, swelling of the face and throat, difficulty breathing, a fast heartbeat, dizziness, and weakness. These would start a few minutes to a few hours after the vaccination.

What should I do?

- If you think it is a severe allergic reaction or other emergency that can't wait, call 9-1-1 or get the person to the nearest hospital. Otherwise, call your doctor.
- Afterward, the reaction should be reported to the Vaccine Adverse Event Reporting System (VAERS). Your doctor might file this report, or you can do it yourself through the VAERS web site at **www.vaers.hhs.gov**, or by calling **1-800-822-7967**.

VAERS is only for reporting reactions. They do not give medical advice.

7 The National Vaccine Injury Compensation Program

The National Vaccine Injury Compensation Program (VICP) is a federal program that was created to compensate people who may have been injured by certain vaccines.

Persons who believe they may have been injured by a vaccine can learn about the program and about filing a claim by calling **1-800-338-2382** or visiting the VICP website at **www.hrsa.gov/vaccinecompensation**.

8 How can I learn more?

- Ask your doctor.
- Call your local or state health department.
- Contact the Centers for Disease Control and Prevention (CDC):
  - Call **1-800-232-4636 (1-800-CDC-INFO)** or
  - Visit CDC's website at **www.cdc.gov/vaccines**

Vaccine Information Statement (Interim)

Hepatitis B Vaccine

2/2/2012

42 U.S.C. § 300aa-26

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BARREN RIVER DISTRICT HEALTH DEPARTMENT BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN
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