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TITLE: STANDARD OPERATING PROCEDURE FOR HANDLING HUMAN BLOOD AND OTHER BODY FLUIDS

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HANDLING HUMAN BLOOD AND OTHER BODY FLUIDS

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1.0 INTRODUCTION

Employee exposure in the workplace to human blood and other body fluids presents a significant health risk because these substances may contain bloodborne pathogens, including hepatitis B virus (HV) which causes Hepatitis B, and human immunodeficiency virus (HIV) which causes Acquired Immunodeficiency Syndrome (AIDS). Possible modes of transmission of HBV and HIV in the laboratory include accidental needlesticks; contamination through direct contact with preexisting scratches, abrasions, burns or lesions; and contamination of mucosal surfaces by either hand-to-nose, hand-to-mouth, hand-to-eye or direct transmission to mucous membranes from splashing or spattering. Aerosol transmission has been hypothesized but not documented. The potential for indirect transmission from contaminated surfaces such as laboratory instruments, benches, vials, etc. exists but has also not been documented. The health risk associated with blood can be minimized or eliminated by using proper techniques for handling and disposing of blood and blood contaminated materials.

The procedures outlined below are designed to reduce to the lowest practical level the chance of accidental infection from the handling of human blood or other body fluid samples during their analysis. Refer to the RTI Policy and Procedures Manual, Section 4.5, for further information.

2.0 IMMUNIZATION TO HEPATITIS B

RTI provides HBV immunization with recombinant HBV vaccine. If you have not been immunized, discuss this with your supervisor. Before working with human blood and other body fluids, you must fill out a copy of the attached Hepatitis B Vaccine Consent Form" and return it to the RTI Safety Office. The form must be filled out regardless of whether you accept or decline the vaccine. Questions regarding the vaccine may be addressed to your supervisor, Bob Uhorchak (RTI Safety Coordinator) or to Dr. Woodhall Stopford, M.D. at the Duke Occupational Health Center (telephone 941-6289).

3.0 GUIDELINES TO PREVENT BLOODBORNE PATHOGENS IN THE LABORATORY

3.1 Treat all human blood products and other body fluids (urine, saliva, etc.) as potential sources of infectious material. Visually inspect sample vials for leakage before handling the vial. In the event of leakage, decontaminate the surface by spraying with a 10% aqueous solution of sodium hypochlorite (Clorox®, etc.) and wiping dry. Sample may then be transferred to another container if necessary.

3.2 Employ appropriate barrier precautions to prevent skin and mucous membrane exposure when working with blood or other body fluids.

- Wear laboratory coats and safety glasses.
- Persons with open wounds or sores on hands, arms or face should properly cover them before working with blood.
- Use double disposable gloves (either vinyl or latex) when the potential exists for the hands to have direct contact with blood, other body fluids, or when handling items or surfaces soiled with blood and other potentially infectious material.
- Remove and replace the outer gloves as soon as possible when they become contaminated, torn or punctured. Replace inner gloves if necessary.
- Wash hands and change gloves after working with potentially infectious materials.

3.3 If hands or other skin surfaces become contaminated with blood or other body fluids, <u>wash immediately</u> and thoroughly.

3.4 Use a Class I Biological Safety Cabinet for procedures that have a high potential for generating aerosol droplets (blending, sonicating, vigorous mixing, etc.). Minimize such activities as much as possible.

3.5 Use mechanical pipetting devices to manipulate all liquids in the laboratory. DO NOT MOUTH PIPET!!

3.6 Eating, drinking, smoking, applying cosmetics or lip balm and handling contact lenses are prohibited in work areas where there is a potential for occupational exposure.

3.7 Food and drink shall not be stored in refrigerators, freezers or cabinets where blood and other potentially infectious materials are stored or in other areas of possible contamination.

3.8 Take precautions to avoid autoinoculation and aerosol generation when using needles and syringes.

- Limit use of needles and syringes to situations where there is no alternative.
- Do not recap needles, bend or break needles by hand, or remove needles from disposable syringes.
- Do not clip the needles.
- Discard all sharp instruments in puncture-resistant "Sharps" containers located close to work area.
- Place container in "Toxic Waste" barrel for incineration.

3.9 Work with potentially infectious materials should be performed in a contained area on absorbent paper if possible to confine potential spills and simplify decontamination and clean-up.

3.10 Decontaminate all glassware, equipment and work surfaces with a 1:10 dilution of household bleach (Clorox®, etc.) after completion of procedures, when surfaces are overtly contaminated and immediately after any spill of blood or other potentially infectious material. Surfaces should be thoroughly wetted with the bleach solution. Contact time should be for a minimum of 10 minutes. Prepare 1:10 household bleach dilution fresh daily to prevent loss of germicidal action during storage.

3.11 Have a container of freshly prepared 1:10 dilution of household bleach (Clorox®, etc.) available to soak used vials, pipets, and other contaminated glassware in following use. Labwipes used to wipe caps, vial tops, etc. should also be placed in the dilute Clorox® bath. Let items soak a minimum of 30 minutes after adding the last item before removing them from the bath. Place disposables in the trash. Rinse reusable glassware in water and place on glass cart. Place used gloves and absorbent paper covering the work surface, etc. in autoclavable biohazard bags to be autoclaved (121E at 15 lb pressure for a minimum of 45

minutes) and discarded in the trash. Pour spent bleach solution down the drain. Flush drain with water.

3.12 Thoroughly clean and decontaminate work area with 1:10 aqueous solution of sodium hypochlorite at completion of work.

3.13 Wash hands thoroughly after completing laboratory activities. Remove protective clothing before leaving the laboratory.

3.14 Report any direct exposure to blood, blood products or body fluids to your supervisor.

4.0 IN CASE OF A SPILL OR OTHER CONTAMINATION WITH BLOOD AND BODY FLUIDS

4.1 Wear double gloves.

4.2 Cover visible blood and body fluid with paper towels and soak with an aqueous solution of 10% bleach. Allow to stand for at least 10 minutes.

4.3 Discard contaminated towels in an autoclavable biohazard bag.

4.4 Change outer layer of gloves.

4.5 Wet the contaminated area again with 10% bleach. Allow to stand for at least 10 minutes.