

UNIVERSAL PRECAUTIONS

Since medical history and examination cannot reliably identify all patients infected with blood-borne pathogens, blood and body-fluid precautions should be consistently used for ALL patients. This approach, previously recommended by CDC and referred to as "Universal Blood and Body-Fluid Precautions," should be used in the care of ALL patients.

- 1. All health-care workers should routinely use appropriate barrier precautions to prevent skin and mucous-membrane exposure when contact with blood or other body fluids of any patient is anticipated. GLOVES should be worn for touching blood and body fluids, mucous membranes or non-intact skin of all patients, for handling items or surfaces soiled with blood or body fluids, and for performing venipuncture and other vascular access procedures. GLOVES should be changed after contact with each patient. MASKS and PROTECTIVE eyewear or FACE SHIELDS should be worn during procedures that are likely to generate droplets of blood or other body fluids to prevent exposure of mucous membranes of the mouth, nose, and eyes. GOWNS or APRONS should be worn during procedures that are likely to generate splashes of blood or other body fluids.**
- 2. HANDS and other skin surfaces should be WASHED immediately and thoroughly if contaminated with blood or other body fluids. Hands should be washed immediately after gloves are removed. For more information on hand hygiene see <http://www.cdc.gov/handhygiene/>.**
- 3. All health-care workers should take precautions to PREVENT INJURIES caused by needles, scalpels, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and, when handling sharp instruments after procedures. To prevent needlestick injuries, NEEDLES SHOULD NOT BE RECAPPED, purposely bent or broken by hand, removed from disposable syringes or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades, and other sharp items should be placed in puncture-resistant containers for disposal; the puncture-resistant containers should be located as close as practical to the use area.**
- 4. Although SALIVA has not been implicated in HIV transmission, to minimize the need for emergency mouth-to-mouth resuscitation, mouth pieces, resuscitation bags, or other ventilation devices should be available for use in areas in which the need for resuscitation is predictable.**

5. Health-care workers who have **EXUDATIVE LESIONS** or weeping dermatitis should **REFRAIN** from all direct patient care and from handling patient equipment until the condition resolves.
6. **PREGNANT** health-care workers are not known to be at greater risk of contracting HIV infection than health-care workers who are not pregnant; however, if a health-care worker develops HIV infection during pregnancy, the infant is at risk of infection resulting from perinatal transmission.

Implementation of universal precautions for **ALL** patients eliminates the need for use of the isolation category of "Blood and Body Fluid Precautions" previously recommended by CDC for patients known or suspected to be infected with blood-borne pathogens. Isolation precautions (e.g. enteric, "AFB") should be used, as necessary, if associated conditions, such as infectious diarrhea or tuberculosis, are diagnosed or suspected.

PRECAUTIONS FOR DIALYSIS

Patients with end-stage renal disease who are undergoing maintenance dialysis and who have "HIV" infection can be dialyzed in hospital-based or free-standing dialysis units using **CONVENTIONAL INFECTION-CONTROL PRECAUTIONS**. Universal blood and body-fluid precautions should be used when dialyzing **ALL** patients.

Strategies for **DISINFECTING** the dialysis fluid pathways of the hemodialysis machine are targeted to control bacteria contamination and generally consist of using 500-700 parts per million of sodium hypochlorite (household bleach) for 30-40 minutes or 1.5-2% formaldehyde overnight. In addition, several chemical germicides formulated to disinfect dialysis machines are commercially available. None of these protocols or procedures need to be changed for dialyzing patients infected with HIV. **SEPARATE DIALYSIS MACHINES ARE NOT NECESSARY IF CLEANED CORRECTLY.**

Patients infected with HIV can be dialyzed by either hemodialysis or peritoneal dialysis and **DO NOT NEED TO BE ISOLATED FROM OTHER PATIENTS**. The type of dialysis treatment should be based on the needs of the patient, the dialyzer may be discarded after each use.

Alternately, centers that **REUSE** dialyzers - i.e. specific single-use dialyzer issued to a specific patient, removed, cleaned, disinfected, and reused several times on the same patient only - **MAY INCLUDE HIV-INFECTED PATIENTS** in the dialyzer-reuse program. An individual dialyzer must **NEVER** be used on more than one patient.

ENVIRONMENTAL CONSIDERATIONS FOR HIV TRANSMISSION

No environmentally mediated mode of HIV transmission has been documented. Nevertheless, the precautions described below should be taken routinely in the care of all patients.

STERILIZATION AND DISINFECTION

Standard sterilization and disinfection procedures for patient-care equipment currently recommended for use in a variety of health-care settings are adequate to sterilize or disinfect instruments, devices or other items contaminated with blood or other body fluids from persons infected with blood-borne pathogens. Medical devices or instruments that require sterilization or disinfection should be thoroughly cleaned before exposure to the germicide, and the manufacture's instructions for the use of the germicide should be followed.

Studies have shown that HIV is inactivated rapidly after being exposed to commonly used chemical germicides at concentrations that are much lower than used in practice.

Sodium Hypochlorite prepared daily is an inexpensive and effective germicide. Concentrations ranging from approximately 500 PPM (1:100 dilution of household bleach) sodium hypochlorite to 5,000 ppm (1:10 dilution of household bleach) are effective depending on the amount of organic material present on the surface to be cleaned and disinfected.

SURVIVAL OF HIV IN THE ENVIRONMENT

The most extensive study on the survival of HIV after drying, involved greatly concentrated HIV samples. At a concentration of at least 100,000 times greater than that found in the blood or serum of patients with HIV infection. HIV was detected 1-3 days after drying, but the rate of inactivation was rapid. Studies performed at CDC have shown that drying HIV causes a rapid reduction of 90-99% in HIV concentration.

Consequently, no changes in published procedures for cleaning, disinfecting or sterilizing need to be made.

HOUSEKEEPING

Environmental surfaces such as walls, floors, and other surfaces are not associated with transmission of infections to patients or health-care workers. Therefore, extraordinary attempts to disinfect or sterilize these surfaces are not necessary. However, cleaning and removal of soil should be done routinely. Disinfectant fogging is an unsatisfactory method of decontaminating air and surfaces and is not recommended.

CLEANING AND DECONTAMINATING SPILLS OF BLOOD OR OTHER BODY FLUIDS

Chemical germicides that are approved for use as "hospital disinfectants" when used at recommended dilutions can be used to decontaminate spills. In patient-care areas, visible material should first be removed and then the area should be decontaminated. Gloves should be worn during the cleaning and decontaminating procedures.

LAUNDRY

Although soiled linen has been identified as a source of large numbers of microorganisms, the risk of actual disease transmission is negligible. Linen soiled with blood and body fluids should be placed and transported in bags that prevent leakage. If hot water is used, linen should be washed with detergent in water at least 71 C for 25 minutes.

IMPLEMENTATION OF RECOMMENDED PRECAUTIONS

Employers of health-care workers should ensure that policies exist for:

1. Initial orientation and continuing EDUCATION and training of all health-care workers including students and trainees on the epidemiology, modes of transmission and prevention of blood-borne infections, and the need for routine use of universal precautions for ALL patients.
2. PROVISION of EQUIPMENT and SUPPLIES necessary to minimize the risk of infection with blood-borne pathogens.
3. MONITORING ADHERENCE to recommended protective measures. When monitoring reveals a failure to follow recommended precautions, counseling, education, and/or re-training should be provided; and, if necessary, appropriate disciplinary action should be considered.