



GUIDELINES FOR PREVENTION OF TRANSMISSION OF HUMAN IMMUNODEFICIENCY VIRUS TYPE 1 IN NEUROLOGIC PRACTICE

Report of the AIDS Task Force

In addition to understanding the neurologic manifestations of HIV-1 infection, all neurologists should know the modes of transmission and possible modes of infection in their clinical setting. HIV-1 is not transmitted by casual contact. HIV-1 is transmitted by sexual contact, through exposure to infected blood and blood components, and perinatally from mother to child. In a neurologist's practice the most important potential mode of transmission is from exposure to infected blood and potentially from infected CSF and tissues. Transmission of HIV-1 by needlestick or exposure to blood on skin or mucous membrane has been reported (1). There is a small but real risk of transmitting HIV-1 from person to person by using contaminated instruments. These recommendations suggest methods to prevent transmission of HIV-1 from patient to patient, from patient to health-care worker, or from health-care worker to patient. Since early data suggest that HIV-2 is a similar virus to HIV-1 in many ways, these guidelines will probably be useful for the prevention of transmission of HIV-2. Because medical history and physical examination cannot reliably identify all patients infected with HIV-1, because this infection can be asymptomatic and HIV-1-related disease can mimic diseases unrelated to HIV-1, because persons of all ages and background may be HIV-1 carriers, and because these measures will protect against transmission of other bloodborne pathogens, e.g. hepatitis B virus, these recommendations should be followed routinely for *all* patients (2).

GENERAL

- (1) Health-care workers should use appropriate barrier precautions to prevent skin and mucous membrane exposure when contact with blood or other body fluids, (3) such as CSF, of any patient is anticipated. Gloves should be worn while performing venipuncture, lumbar puncture, and while touching blood, CSF or other body fluids, mucous membranes or non-intact skin. Gloves should be changed, and hands should be washed after contact with each patient. Should one's skin or mucous membranes become contaminated, the contaminated spot should be cleaned thoroughly and immediately with soap and water. Should an accidental needlestick or blood exposure occur, the exposed health-care worker should report this exposure to a supervisor according to institutional or local guidelines for appropriate medical follow-up. Recommendations for managing exposures to HIV-1-contaminated fluids have been published by the US Public Health Service (3). For literature or videotapes call 301-496-2801.
- (2) Health-care workers who have exudative lesions or weeping dermatitis should refrain from direct patient care or handling until their condition resolves.
- (3) Environmental surfaces, such as walls, floors, and other surfaces are not associated with transmission of infection to patients or health-care workers, thus extraordinary attempts to disinfect these areas are not necessary. When soiling or spilling occurs, areas should be decontaminated with "chemical germicides used as hospital disinfectants." Gloves should be worn during cleaning procedures.
- (4) Resuscitation. Artificial ventilation devices (e.g., Ambu bags) should be available in patient care areas to minimize the need for emergency mouth-to-mouth resuscitation.

SPECIFIC

Because HIV-1 is a conventional enveloped virus, it is readily inactivated by currently recommended standard sterilization and disinfection procedures. More rigorous sterilization procedures such as those needed to sterilize instruments used on patients with Creutzfeldt-Jacob disease are not necessary for HIV-1.

- (1) Needles. Needles for venipuncture, or lumbar puncture, or to instill local anesthetic before lumbar puncture should not be recapped and after use should be placed in puncture-resistant containers for disposal.
- (2) Sharp instruments. The use of sharp instruments, e.g., pins, sensory testing devices that might penetrate the skin or mucosa, should be limited and used with caution. Do not use pinwheels or lapel pins; a fresh pin should be used for sensory testing of each patient.
- (3) Surface electrodes. Surface electrodes should be cleaned with a 1:10 dilution of household bleach or 70% isopropyl alcohol solution between patients. Electrodes contaminated with blood or body fluids should be thoroughly cleaned or discarded.
- (4) Needle electrodes. Disposable needle electrodes should be used whenever possible. If reusable electrodes are indicated, electrodes should be manually cleaned of blood and particulate matter with disposable products and then placed in 70% isopropyl alcohol. After 90 minutes in isopropyl alcohol, electrodes should be sterilized in the routine manner. Insert needle electrodes with a technique that minimizes potential for accidental stick of the examiner (e.g., use a stationary device). Needle electrodes should not be recapped after use but should be placed in puncture-resistant containers and sent for sterilization or incineration.
- (5) Invasive procedures (e.g., nerve and muscle biopsy, myelography, arteriography). Use of gloves, goggles and other devices should be used as recommended by the US Public Health Service (2).
- (6) Implementation of recommended precautions. In neurologic practice, employers should ensure that all health-care workers be oriented and educated as to the appropriate methods for handling potentially HIV-1-contaminated instruments as well as to routine use of universal blood and body fluid precautions for all patients. Equipment and supplies should be available to minimize the risk of transmission. Monitoring adherence to recommendations is advised.

REFERENCES

1. Centers for Disease Control. Update: human immunodeficiency virus infections in health-care workers exposed to blood of infected patients. *MMWR* 1987;36:285-9.
2. Centers for Disease Control. Recommendations for prevention of HIV transmission in health-care settings. *MMWR* 1987;36:3S-18S.
3. Centers for Disease Control. Update: Universal precautions for prevention of transmission of human immunodeficiency virus, hepatitis B virus, and other blood-borne pathogens in health-care settings. *MMWR* 1988;37:377-82, 387-8.

This statement is provided as an educational service of the American Academy of Neurology. It is based on an assessment of current scientific and clinical information. It is not intended to include all possible proper methods of care for a particular neurological problem or all legitimate criteria for choosing to use a specific procedure. Neither is it intended to exclude any reasonable alternative methodologies. The AAN recognizes that specific patient care decisions are the prerogative of the patient and the physician caring for the patient, based on all the circumstances involved.

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