Real risks of HIV transmission to physicians and their staffs

This series will provide brief clinical updates and perspectives on the human immunodeficiency virus (HIV). It was developed from the AOA Task Force on AIDS Writers' Workshop, held August 16 to 18, 1991, in New York, and sponsored by an education grant from Burroughs Wellcome. A related editorial appears on page *63*. Readers may request tear sheets from the AOA editorial offices.

(Key words: AIDS, HIV infection, HIV transmission, infection control, communicable diseases, body substance precautions)

Question

What are the real risks of HIV transmission to me and my staff?

Answer

Regardless of whether physicians and their staffs are actively involved in the care of HIV-infected patients, it is essential that they all have detailed knowledge of the real risks of HIV transmission in the healthcare setting. The reasons for this need are now obvious and are supported by seroprevalence estimates of more than 1 million infected Americans, averaging one of every 75 male adults and one of every 700 female adults. Thus, it is unlikely that any healthcare worker can avoid *all* contact with HIV-infected patients—now or in the future. In addition, although the absolute risks are small, they are real and the consequences are deadly, further emphasizing the need to implement basic precautions in all office settings.

As physicians, we should remind ourselves that we are constantly in danger via exposure to potentially lethal infectious diseases—a point that appears to be less dramatic in this era of potent antimicrobial therapy. Each year, more than 200 healthcare workers die as a consequence of hepatitis B infection acquired on the job. Still, many physicians remain unvaccinated. The HIV infection is far less efficiently transmitted in comparison with hepatitis B infection. The likelihood of contracting infection after a needle stick from a patient with hepatitis B infection is between 10% and 30%, compared with a likelihood of less than 0.33% for the same exposure to HIV infection. Nonetheless, in view of the more certain fatal consequences, prevention of HIV infection is of paramount importance. Fortunately, the risks of HIV transmission after topical exposure to blood and other bodily fluids seem extremely remote: no seroconversions have been noted in more than 1000 documented exposures studied prospectively.

Current strategies to prevent HIV infection in the healthcare setting are highly effective and protect both the healthcare worker and the patient. There exist no documented instances of transmission of HIV from a physician to a patient; nevertheless, the chances of such an occurrence are real.

Infection control policies, which are already in place at the Cleveland Clinic, are presented on the following two pages. These guidelines are based on the Centers for Disease Control "Universal Precautions" (*MMWR* 1987;36 [suppl 2]:2S), but they are more rigorous by virtue of treating all bodily fluids (except perspiration) as potentially infectious.

Body substance precautions

Body substance precautions are designed to prevent the transmission of infection to patients and employees.

Definition

Body Substance Precautions are infection-prevention practices used for *all* patients. These practices involve the use of protective barriers for contact with any body substance, mucous membrane, or nonintact skin. *Because body substance precautions are used for all patients regardless of diagnosis, the need for the traditional isolation of known infected patients is not necessary unless the patient has a disease transmitted by the airborne route.*

Equipment

Protective barriers (gloves, masks, eye protection, aprons/gowns) will be readily available in all patient care areas.

Protective barriers will be used for all patients regardless of diagnosis.

Gloves

- Gloves will be worn when touching mucous membranes or nonintact skin and when handling blood or any body substances. Gloves will also be worn when handling items or equipment that is visibly soiled with blood or other body substances.
- Gloves will be worn at all times by employees handling trash, linen, and used dishes because these items may be soiled with blood or other body substances.
- Gloves will be worn for handling any patient specimen when the outside portion is visibly soiled.
- Gloves will be worn when performing venipuncture and changed between each patient.
- Gloves are not necessary for touching intact skin or equipment not soiled with body substances.

Eye protection

- Eye protection will be worn during any patient care activity where splashing or aerosolization of blood or body substances is likely to occur.
- If corrective eyeglasses are worn, additional eye protection is not necessary.

Masks

- Masks will be worn during any patient care activity where splashing or aerosolization of blood or body substances is likely to occur.
- Masks will be worn when in contact with a patient with a known or presumed airborne infection.

Aprons/gowns

- Aprons or gowns will be worn for activities where clothing is likely to become soiled with blood or other body substances.
- Aprons/gowns will be worn when handling linen or equipment visibly soiled with body substances.

Resuscitation equipment

- One-use emergency resuscitation equipment will be available in all patient care areas.
- Mouth-to-mouth resuscitation should not be performed in the hospital if equipment is available.

Red plastic bags

Any items or material grossly soiled with blood or other body substances will be placed in a red plastic bag and sealed. Red plastic bags are disposed of in a designated container in each patient care area.

Needle/sharp instrument disposal

- Needle-disposal boxes will be available in any area where needles or sharp instruments are used.
- Needles will not be recapped, bent, broken, removed from the syringe or otherwise manipulated. The uncapped needle will be placed in the needle-disposal container. *There will be no biohazard labeling of patients' charts or laboratory specimens.*

Sterilization/disinfection

- Any instrument, item, or equipment soiled with blood or other body substances will be rinsed with cold water and sent to Central Service for cleaning, disinfection, or sterilization.
- Sterilization—Required for items or objects

that are placed directly into the bloodstream or into other normally sterile body areas or that penetrate soft tissue or bone.

- Disinfection

High-level disinfection is required for items that come in contact with mucous membranes (scopes, endotracheal tubes, et cetera).

1. Agents: Gluteraldehydes
2. Contact Time: Minimum of 10 minutes.

Intermediate level disinfection is required for items or surfaces soiled with blood or other body substances. Cleaning with a detergent before disinfection is required.

1. Agents: Sodium chlorite, sodium hydrochloride, alcohols, phenols, or iodophors
2. Contact time: 1 minute.

- Any disposable item or material that is grossly soiled with blood or other body substances will be placed in a red plastic bag and sealed. Red plastic bags will be disposed of in a designated container in each patient care area. This trash will be defined as infectious and handled in accordance with state and local laws.
- Linen soiled with blood or other body substances will be placed in a plastic or nonpermeable bag.

Comment

The preceding guidelines are practical and should be made well known to *everyone* in your office. They are simple to follow and do not require extraordinary equipment or procedures for the vast majority of workers in office-based care. Accordingly, from a risk perspective, there is no reason for healthcare workers to avoid involvement with known HIV-infected patients. In fact, in areas where physicians more routinely see HIV-infected patients, they appear to be more careful during invasive procedures and more likely to be protecting themselves and their staffs in their day-to-day patient care activities.

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In future issues...

Future articles in this "HIV Dialogues and Management" series will answer the following questions:

- ☐ How can I better recognize patients in my practice who are at risk of, or already infected with, HIV disease?
- ☐ What should make me suspect that one of my patients is infected with HIV?
- ☐ What are the simple guidelines for HIV testing that I can follow in my practice?
- ☐ How do I workup a newly diagnosed HIV-positive patient?
- ☐ How do I begin therapy for an HIV-infected patient?
- ☐ How do I manage a patient with HIV disease that is progressing?