Addressing Concerns of Pediatric Trainees Caring for Patients With Human Immunodeficiency Virus Infection

Task Force on Pediatric AIDS

Since the recognition of the human immunodeficiency virus (HIV) as the cause of HIV infection and the acquired immunodeficiency syndrome (AIDS), studies have determined that the risk of infection to the health care worker through occupational exposure is extremely low. However, the perception of risk can have potential psychologic consequences for health care workers providing medical care to HIV-infected patients. What is it that makes caring for HIV-infected patients an unsettling emotional experience? While occupational risks accompany all work, physicians have in the recent past perceived themselves with little vulnerability to a devastating disease. Medical professionals at the turn of the century had alarmingly high rates of mortality from tuberculosis, and today, if not immunized, they are at increased risk for hepatitis B. HIV infection carries formidable biologic and social consequences that contribute to the psychologic stress that may accompany caring for infected patients.

Because HIV-infected patients are dealt with extensively in tertiary centers, there are significant implications for resident and medical student training, especially in urban locales where the rate of HIV infection is high. The emotional risks of caring for patients with HIV infection have had scant documentation, but there is growing evidence for concern. A study of 250 residents in New York City documented that 19% of pediatric residents and 36% of medical residents had needle-stick exposure to HIV in 1986. A 1988 study of 294 pediatric residents in 11 New York City programs revealed that 205 of the residents (69.7%) had been stuck with a blood-contaminated needle on 588 separate occasions. While there was considerable concern expressed by residents over acquiring HIV, more than half did not want to know whether they were HIV seropositive. Only 11 of the 48 residents with needle-stick injuries of potentially HIV-contaminated blood received counseling or HIV testing after exposure. Similar studies have not been reported in low-incidence locales.

The consequences of such exposures are sobering; 25% of New York City residents declared that if given a choice they would not care for AIDS patients; 53% of internal medicine and 44% of pediatric residents said they were resentful of having to take care of AIDS patients.

In addition to the apprehension that accompanies the risk of accidental exposure, there are other aspects of dealing with patients with AIDS that can be disturbing to physicians in training. These include the following: (1) AIDS patients often die, placing stress on the health care professional in coping with loss and perceived failure; (2) patients or infected parents are usually young, often the same age as the resident, and this may cause anxiety because of physician identification with the patients; and (3) adolescents and children with HIV infection and their families often have social problems that can foster a sense of anger, frustration, and futility. These feelings can be aggravated by stress and fatigue, common factors during residency training. Again, it should be noted that many of these kinds of reactions are not unique to HIV infections. Residents are often devastated by the death of patients, particularly young patients, regardless of cause. Further frustration in dealing with the overwhelming problems of inner-city populations is common.

Reports of the Presidential Commission on the HIV Epidemic and the Institute of Medicine of the National Academy of Sciences recommend dissemination of information about risks and risk-reduction techniques to health care providers. These have been codified by the 1992 Occupational Safety and Health Administration regulations.

The Association of American Medical Colleges (AAMC) has released a policy statement addressing the responsibilities of institutions toward trainees concerning HIV infection as well as policies for dealing with HIV-infected trainees. The AAMC Guidelines include the following recommendations:

- Institutions should develop and regularly review policies for dealing with HIV infections and possible exposure in health care staff. Institutions should devise policies to promote safe and appropriate patient care, confidentiality for HIV-infected individuals, a safe environment, and implementation of current laws. Modification of training or privileges for HIV-infected providers should be determined on an individual basis. Policies also need to be developed for ensuring and providing compensation for trainees infected as a result of caring for patients.

The Academy supports these recommendations and recommends that all training programs develop
specific policies designed to help students and residents care for patients with HIV infection in a safe and effective manner. It is also important to establish policies with respect to medical students who are not institutional employees. Such policies should describe explicit measures for dealing with the emotional consequences of caring for patients with HIV infection and the emotional consequences of being placed at risk of contracting a fatal illness. Institutions should develop programs and policies that address specific local needs as well as addressing the following areas:

**Education About HIV Exposure Risks.** Training programs should disseminate accurate and current information concerning HIV infection. Residents and students should know the probability of acquiring HIV infection following needle-stick exposure and of appropriate avoidance techniques. Information should be updated frequently. Available written and audiovisual material should be reviewed periodically.

Information should also address the psychologic consequences of exposure. It is necessary but not sufficient to inform an exposed individual that, according to current data, the risk of acquiring HIV infection after needle-stick exposure is 0.4%. The individual exposed to HIV through a needle-stick may consider only two outcomes: infection will or will not occur. This may be felt as a 50/50 chance of acquiring a fatal disease. It is essential to appreciate this phenomenon in order to address seriously the resident's concern. Therefore, we recommend a dual approach: address the facts and acknowledge the feelings that accompany the facts.

**Expectations to Provide Care to HIV-Infected Patients.** Training institutions have accepted the responsibility of caring for HIV-infected patients. Therefore, residents are obligated to care for assigned patients. Although not institutional employees, medical students are also expected to have clinical involvement with a variety of conditions, including HIV infection. It should be explicitly stated to residents and students that they will participate in the care of patients with HIV infection. Occasionally, a resident has refused to provide care for patients with AIDS. A formal written policy detailing the way in which the training program will respond to a resident's refusal should be in place.

Trainees should be assigned to clinical experiences commensurate with their ability and experience. They should be taught to perform procedures competently and safely as well as to cope emotionally with the risks that accompany those procedures. When requested and appropriate, medical students should also be expected to do venipunctures and assist in surgical procedures after they have received specific education and training and have suitable experience. Institutions should establish policies and promote safety during routine drawing of blood from known HIV-positive and other high-risk patients. Accidents increase when individuals are tired, and residents working long shifts are subject to fatigue.

Institutions should also develop explicit policies regarding the care of HIV-infected patients by pregnant students and residents. Pregnancy is currently not known to increase the risk of acquiring HIV infection after accidental exposure. Therefore, the biologic risk to the pregnant and nonpregnant resident is the same. Pregnant trainees may express apprehension that HIV acquired in a medical accident will infect their fetus as well. Based on current estimates of HIV seroconversion of 0.4% following needle-stick injury with HIV-seropositive blood and an estimated 33% likelihood of an infant of an HIV-infected mother acquiring HIV, there will be approximately 1 infected fetus per 750 needle-stick injuries with HIV-infected blood. The likelihood of accidental injury and exposure to infectious material can be reduced with adherence to proper techniques. The Academy recommends pregnant and nonpregnant trainees should have the same responsibilities in caring for HIV-infected patients.

Clear policies should also exist as to expectations of all hospital personnel caring for HIV-infected patients. There have been reports of other hospital personnel refusing to participate in the care of patients with HIV. In these situations, some residents have felt both obligated to provide care and victimized by having to accept responsibility to give the care that other hospital personnel have refused to provide. Care for HIV-infected patients is an obligation of all hospital personnel. Trainees should not be required to assume the responsibilities that others have avoided.

**Minimizing Risk in Patient Care Settings.** Universal precautions are mandated for dealing with blood and blood products in health care institutions. One of the major reasons for the lack of appropriate use of precautions has been the lack of availability and accessibility of appropriate material in areas where resuscitations and other expedient procedures are conducted. In addition, it is essential that materials of the highest quality be available and that varying sizes be provided. A common reason given for not using gloves in appropriate situations, cited especially by female residents, is that only one size is available and that size is too large to accomplish a technical procedure comfortably and accurately.

Residents working in emergency departments must be especially cognizant of risks of needle-stick injuries. Needles and syringes used for emergency procedures such as intracardiac injections have been laid on or stuck into examining tables or dropped on the floor during emergencies. The risk of needle-stick for other hospital personnel is particularly high in these situations.

It is also essential to monitor whether or not precautions are being followed. This monitoring should be done routinely and regularly. If precautions are not followed, it is important to meet with housestaff to discuss and remove barriers to implementation.

**Formal Departmental Mechanisms for Dealing With Concerns About HIV Infections.** Each department should have identified resource personnel who can address the medical and psychologic concerns of housestaff about AIDS. There should be regularly scheduled meetings in which issues of exposure risk
and the emotional aspects of caring for patients with HIV infection are openly discussed.

Housestaff and students should also have access to information or counseling sessions in an environment of complete confidentiality. Counseling should be available from individuals who do not have influence over a trainee's status in a residency program. At the request of any student or resident, confidential HIV testing should be available, with appropriate and confidential counseling both before and after testing. To guarantee confidentiality, trainees should be advised of the availability of anonymous testing sites. Institutions should provide initial and follow-up testing at no charge to individuals who experience either needle-stick or splash exposures.

Each department should have in place a protocol for dealing with exposure to blood and blood-contaminated body fluid from patients with known or unknown HIV status. In high-risk areas, 24-hour availability of individuals who are on call and competent in current medical and psychologic approaches to management of accidental injury is recommended. The efficacy of zidovudine taken prophylactically following needle-stick injury has not been proven to be of benefit, but the risks and potential benefits of such therapy should be discussed with a resident who has had an accidental stick.\(^1\) Hepatitis B immunoglobulin should be considered if the resident has not been immunized against hepatitis B.

In addition, each department should have a mandatory session for general counseling and information purposes. Needle-stick injury with HIV-infected blood has on occasion caused psychologic distress of such magnitude as to warrant disability leave. Health professionals often resist seeking appropriate mental health care. The greatest difficulty is making the initial encounter. A mandatory group meeting would provide a nonstigmatizing means of making an initial contact. After needle-stick or other high-risk exposure, individual counseling sessions should be strongly encouraged. Institutions in high-risk areas should be aware of the need for such services, and insurance should cover the cost of counseling in order to promote adjustment after exposure.

Institutions should deal with issues such as (1) the support and acceptance of residents with HIV infection into the training program and continuation of the training of residents who themselves have HIV infection; (2) the educational balance in training programs with a large number of HIV-infected patients; and (3) the economic, medical, and social consequences for trainees who acquire HIV at work. The report by the AAMC outlines many of these issues, and this report is suggested as a guide for policy development by individual programs and institutions.\(^17\)

**ACADEMY RECOMMENDATIONS**

1. All pediatric trainees should be expected to care for patients with HIV infection.

2. Residents and medical students should be knowledgeable about the modes of transmission and methods of prevention of HIV infection. Institutions should establish policies, promote infection-control safeguards, and monitor adherence to safety policies and universal precautions.

3. Training programs should address the emotional aspects of caring for patients with HIV infection as part of their formal curriculum.

4. Institutions should have policies for dealing with the medical, psychosocial, and economic consequences of HIV exposure by residents and medical students.

5. Confidential HIV testing should be available on request, without charge, and should be accompanied by pretest and posttest counseling. Counseling given before the testing should include discussion of the impact of HIV status on career development in accordance with evolving guidelines and recommendations. Trainees should be made aware of the availability of anonymous testing sites.

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**REFERENCES**


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