

HIV/AIDS  
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# HIV INFECTION AND AIDS: GUIDELINES FOR NURSING CARE



WORLD HEALTH ORGANIZATION  
Regional Office for the Western Pacific  
Manila

HIV/AIDS Reference Library for Nurses

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***World Health Organization  
Regional Office for the Western Pacific  
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1993***

WHO Library Cataloguing in Publication Data

HIV Infection and AIDS: Guidelines for Nursing Care

(HIV/AIDS reference library for nurses; v.4)

1. Acquired immunodeficiency syndrome -nursing
  2. Nursing care
  3. HIV infections -nursing
- I. Series

ISBN 92 9061 107 3

(NLM Classification: WY 153)

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# **FOREWORD**

The continuing increase in HIV infection has brought a new dimension to some of the most complex problems in our health delivery services and social systems and has emphasized the need for a structured and consistent system of control and protection, as well as care of the people with HIV infection.

The World Health Organization Global AIDS Strategy has established principles for national and international HIV prevention and control and provides the necessary framework within which individual countries can develop strategies relevant to their particular needs.

There is a crucial and ongoing need for nursing services to respond to the health needs presented by the HIV pandemic. Nurse managers and nurse educators must participate actively in health policy formulation and planning to organize a framework for the prevention and control of HIV. Such a comprehensive plan requires intervention in three distinct areas: human resources management, community development and provision of health and social services.

As key members of the health care team, nurses at all levels must work with communities and other health professionals to prevent the spread of HIV infection.

These guidelines for nursing care outline the range of nursing services needed for the prevention of HIV infection and care for patients throughout the stages of HIV infection and AIDS. Particular emphasis is placed on the prevention of infection, through community education and resource development, and the care and counselling of people with AIDS.

The World Health Organization recognizes that the current challenge of the HIV pandemic demands the energy and continued commitment of nurses who, as a profession, have traditionally provided skilful and empathetic health services to individuals, families and communities.

We are committed not only to the struggle against AIDS, but also to the struggle for health. This commitment is not only for today but for the decades to come. The implementation of a primary health care strategy in this struggle will bring us closer to our goal, which is health for all.



**S.T. Han, MD, Ph. D.**

**Regional Director**

# ***ACKNOWLEDGEMENTS***

This series has benefited from the expertise and dedication of many nurse researchers, writers, educators and administrators who developed much of the material, as well as consultants and participants to several WHO Western Pacific Regional workshops in 1988 and 1989.

The WHO Regional Office for the Western Pacific HIV/AIDS Reference Library for Nurses was the result of efforts by nurses in the Western Pacific Region and other health care workers around the world to stop the spread of HIV infection through the improvement of their understanding of the problem, its control and management.

It is our hope that these books will contribute to nursing services in the prevention and control of AIDS throughout the Western Pacific Region.



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# **1. INTRODUCTION**

The purpose of this book is to familiarize the nurse with the range of nursing services needed as a result of human immunodeficiency virus (HIV) infections and acquired immunodeficiency syndrome (AIDS) and to describe the nursing care that is required to prevent infection and provide care throughout the stages of HIV infection. The material covers a wide range of information and includes such topics as the prevention of infection, illness care, community education and resource development.

The number of people infected with HIV and AIDS is projected to increase greatly over the next few years. This is due to various factors, among them the continuation of behaviours which cause viral transmission, and the long incubation period (months or years) which has resulted in some persons being infected even before HIV infection and AIDS were described as a distinctive entity. As the number of these cases increase, there will be a major strain on health care resources and economic systems. Since there is no known cure, the only way of halting this epidemic is through the prevention of further infection.

As time passes, a greater percentage of nurses all over the world will become involved in the care of people with HIV infection/AIDS. Those persons who have already been infected with HIV are likely to develop AIDS. In addition, many people with AIDS are living longer. While the average life expectancy was previously less than one year after diagnosis, many now live two or more years as a result of earlier diagnosis and improved treatment. Both the longer life expectancy and the increased number of infected people will result in a greater likelihood of encountering patients in all types of settings who will require the skills offered by nursing.

Since there is no known cure for AIDS, current efforts are aimed at the prevention of HIV infection and the management of symptoms in patients. The special knowledge and skills of nurses are required for both these activities. At various stages of HIV infection, different problems call for specific services and nursing skills. Figure 1 (page 3) depicts the clinical picture of HIV, the resulting

nursing interventions, which are directed at both the individual patient and community levels, and the settings in which nursing care takes place. This overview provides the reader with information on the broad range of possible services and health delivery settings which can be used or may need to be developed.

AIDS and HIV infection have provoked responses of fear and discrimination from some members of society. This is because it is a fatal, infectious disease for which there is no cure, the victims remaining infectious for life. The fact that it is transmitted by behaviours that are illegal (intravenous drug use) or private (sexual activity) further increases fear and discrimination. This has led to a false sense of security on the part of certain persons who engage in risk behaviour, but who think that, since they are not members of the most affected groups, they will not need to take precautions. For example, some heterosexuals are at risk because of their multiple sexual partners, but do not consider themselves at risk since they are not intravenous drug users. In some countries, AIDS and HIV infection have also led to broad discrimination against collective groups such as homosexuals, who were among the first to be infected.

Public discrimination and subsequent mistreatment have often been directed at anyone with AIDS, regardless of the means of transmission. Nurses can be influential as role models in the community by offering patients a non-discriminatory, caring response. They can provide care for individuals and families at all stages of HIV infection, ranging from those who have no symptoms to those who are dying from AIDS. Such a positive, supportive response can help others, such as employers, family and neighbours, to better understand the disease so that unnecessary pain and loss are not experienced by the patient and families.

**Efforts must be made to reduce the presence of fear and discrimination toward HIV-infected persons in communities. As role models, nurses can provide examples of supportive and caring responses to the needs of infected individuals.**

**Figure 1. Overview of the clinical spectrum of HIV infection, required nursing interventions and health care settings**

Spectrum of health/illness	Clinical picture of HIV infection	Nursing goals/interventions		Setting
		Individual patient	Community	
Health	"Worried well" (those who are well but have practised high risk behaviour)	<p>Counselling to prevent HIV transmission</p> <p>Identify existing support services and plan or develop services for adequate care delivery needed throughout the course of HIV disease.</p>	Educate groups on how to prevent viral transmission and not to fear people with HIV infection	Schools, churches, worksites, clubs, professional organizations
Illness	HIV antibody positive	<p>Infected with HIV</p> <p>3 weeks to 6 months</p>	Educate regarding appropriate use of test for surveillance purposes.	Out-patient clinics, health departments, reproductive family planning, STD clinics and blood banks
	Months to years	<p>Counselling regarding: HIV antibody test</p> <p>pre-test</p> <p>post-test</p> <p>Provision of care through treatment and symptom management, supportive living services, education (self-care) and counselling</p>	Facilitate use of existing health care institutions, support expansion of services as needed to meet health care needs. May include support groups, personal care workers, skilled and rehabilitative nursing care and family members.	Hospital, home, long-term care facility (nursing home), day care
Death	AIDS	<ul style="list-style-type: none"> <li>• Symptom management</li> </ul>		Hospice
	Months			
	Death	<ul style="list-style-type: none"> <li>• Pain relief</li> <li>• Emotional support</li> </ul>		

Among the strengths of nursing are the ability to respond to urgent needs that require nursing skills, the numbers within the profession, and the diversity of settings in which nursing is practiced. Virtually any setting can be a place where teaching on the prevention of HIV infection can occur. It is vital therefore for nurses to respond to this need and to become informed and knowledgeable about HIV infection. This is both an obligation and an opportunity since nurses will gain greater experience in a visible role working with the public. Nurses can have a major impact on reversing the growth of this epidemic.

In many countries primary health care provides the basic framework of the national health care system. One of the essential elements of primary health care, under the responsibility of governments and health personnel, is providing the public with information on current health problems and on methods for their prevention and control. Another element emphasizes the right and duty of individuals and communities to assume responsibility for matters related to their own health. Through the primary health care approach, nurses are able to facilitate changes in both individual and collective behaviour and foster the prevention of HIV infection and AIDS.

Although nurses may choose to specialize in one clinical area, a common approach that is shared by all is to view the individual as a whole. Early in their training, nurses learn that the individual is a multifaceted whole composed of psychological, social, physical and spiritual aspects. The family, community and culture are also viewed as entities made up of many individuals. Nurses are unique among the health to professions in their concern for the person as a whole and as part of the community. Nurses' perspective on the individual and community allows them to assist patients in diverse ways, and to work with them to achieve the highest possible level of health.

Whatever direction nurses take in the profession, they can continue to maintain this holistic view of the individual and the broader community. This perspective is particularly useful when working with patients with HIV infection and AIDS, since all spheres - physical, social, emotional and spiritual - must be addressed to ensure an impact on the individual, the family and the community.

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## **2. HIV INFECTION/AIDS: AN OVERVIEW**

Acquired immunodeficiency syndrome (AIDS) is a disease caused by the human immunodeficiency virus (HIV). The virus is known to be transmitted primarily through specific, preventable behaviours.

### **How is HIV transmitted?**

- **through sexual contact with an infected person**
- **by transfusion or injection of infected blood or blood products.**
- **perinatal transmission from an infected woman to her fetus or newborn**

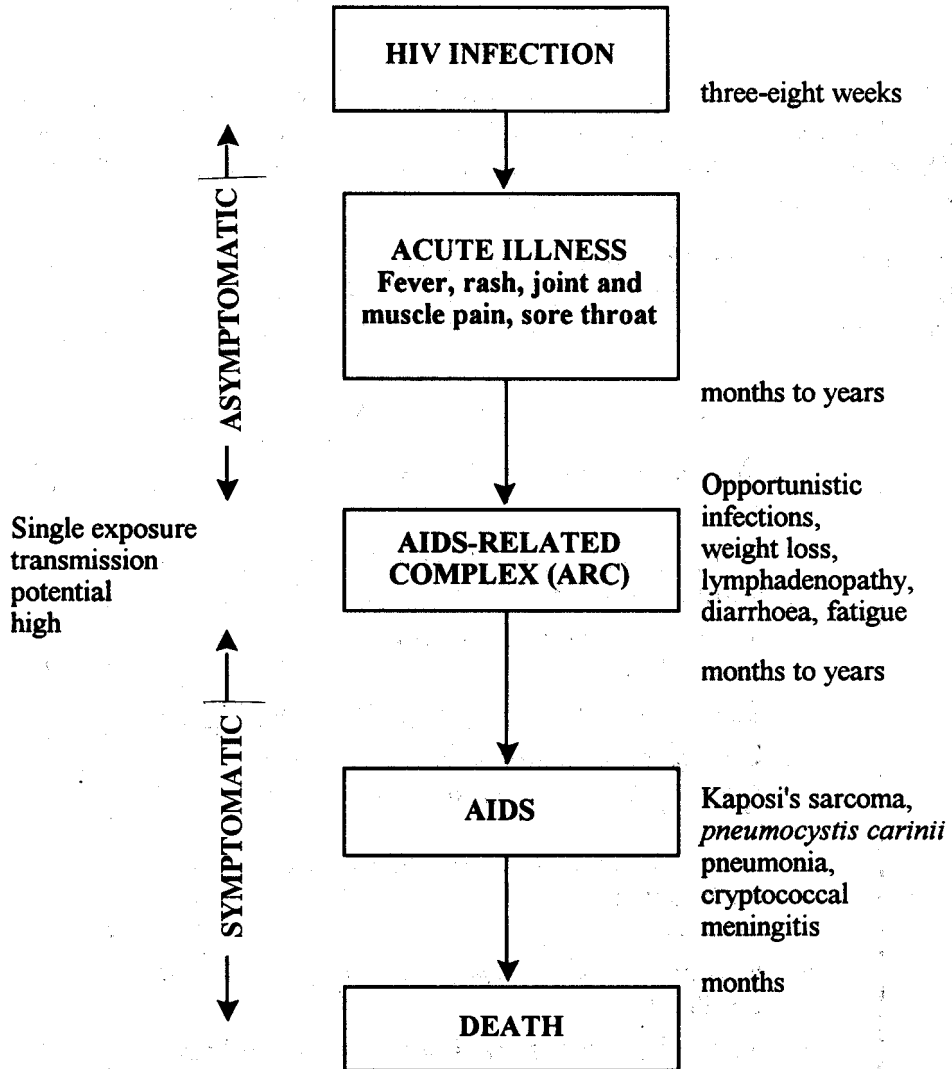
There is no vaccine to prevent HIV infection and there is no cure for AIDS. The only way to prevent AIDS is through education and counselling which will result in behavioural changes that prevent the transmission of HIV.

HIV infection goes through several stages. The clinical course of HIV infection begins when a person becomes infected with HIV through either (1) sexual contact with an infected person, or (2) transfusion or injection of infected blood or blood products, or (3) perinatal transmission. The virus invades certain white blood cells (specifically T cells and macrophages) and nerve cells, where it is able to multiply and then invade other cells. The virus damages the infected cells and impairs their function. Over time, this damaged function begins to show itself as symptoms. Once infected, the person is considered infectious (able to transmit the virus to other people) for life

The progression of HIV - related illness is depicted in Figure 2. Within three to eight weeks after infection, the person generally develops an acute illness lasting two to three weeks with symptoms such as fevers, rash, joint and muscle pain, and sore throat. Symptoms may be mild and usually disappear completely. However, the virus continues to reproduce itself inside the body, and the person's immune system responds by developing antibodies to the virus. Within a period of six to 26 weeks after infection, it is usually possible to detect HIV antibodies in the blood. Unlike antibodies to most other microorganisms, these antibodies do not destroy the virus. In some infected persons, antibodies cannot be detected for months or even years after infection, yet they are still considered infectious.

Persons may remain asymptomatic and feel and appear healthy for years, even though they are infected with HIV. HIV - infected persons who may have symptoms which do not yet meet the definition of AIDS are said to have ARC, or AIDS-related complex. ARC patients often experience periodic episodes of opportunistic infections, which can be life-threatening if not controlled by therapy. Although they do not have AIDS, their immune system is impaired. They may also exhibit neurological symptoms such as short-term memory loss, altered gait, depression, sleep disorders or chronic diarrhoea. As the symptoms progress over time, ARC patients become AIDS patients unless therapy is available and successful.

Figure 2. Natural history of human immunodeficiency virus



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### **3. PREVENTION OF HIV TRANSMISSION**

Education regarding preventive measures such as condom use and safer sex must be provided within the context of a country's beliefs and values if it is to be effective. The material presented below may therefore need to be modified in order to be meaningful for various groups of people.

Before a nurse can educate and counsel people on how to prevent the spread of HIV, he/she must understand what constitutes risky behaviour. The following is a list of specific behaviours which people should avoid in order to prevent the spread of HIV:

**What is risky behaviour?**

- **Contact with several sexual partners, or a sexual partner who has had several partners;**
- **Sexual contact with someone who is infected with HIV;**
- **Sharing needles and syringes to inject drugs;**
- **Ear piercing, acupuncture, tattooing and hair removing with equipment not sterilized correctly;**
- **Sexual contact with a prostitute, or having sex with someone who has had sex with a prostitute;**
- **Sexual contact with someone who is not familiar;**
- **Sexual intercourse without using a condom.**



It is important to assume that all sexual partners may carry HIV and a condom should be used with any kind of sexual intercourse. If the person has been in a long-term monogamous relationship, sexual intercourse without a condom is considered safe if both partners have not engaged in other risk activities. This is because the partners have been in sexual relationship only with each other and neither has had any exposure to HIV.

**Since the incubation period for AIDS may be months or years, people can appear healthy and still carry and transmit the virus.**

### ***Safer sex***

The most effective personal action to prevent AIDS is to practise safer sex. The riskiest type of sexual activity is penetrative sex (penis-vagina or penis-rectum). Tiny tears in the surface lining of the vagina or rectum may occur during sexual intercourse, and provide entrance of the virus directly into the tissue and bloodstream. Abstinence from sex is the one sure way to avoid sexual transmission of HIV.

For those who choose to be sexually active, it is important to practise safer sex. Safer sex enhances the confidence of not giving or getting sexually transmitted diseases such as AIDS. It requires a person to have not only self-respect but also respect for the partner. It involves knowing how to protect one another, planning for and talking about sex prior to sexual activity, and taking precautions consistently every time.

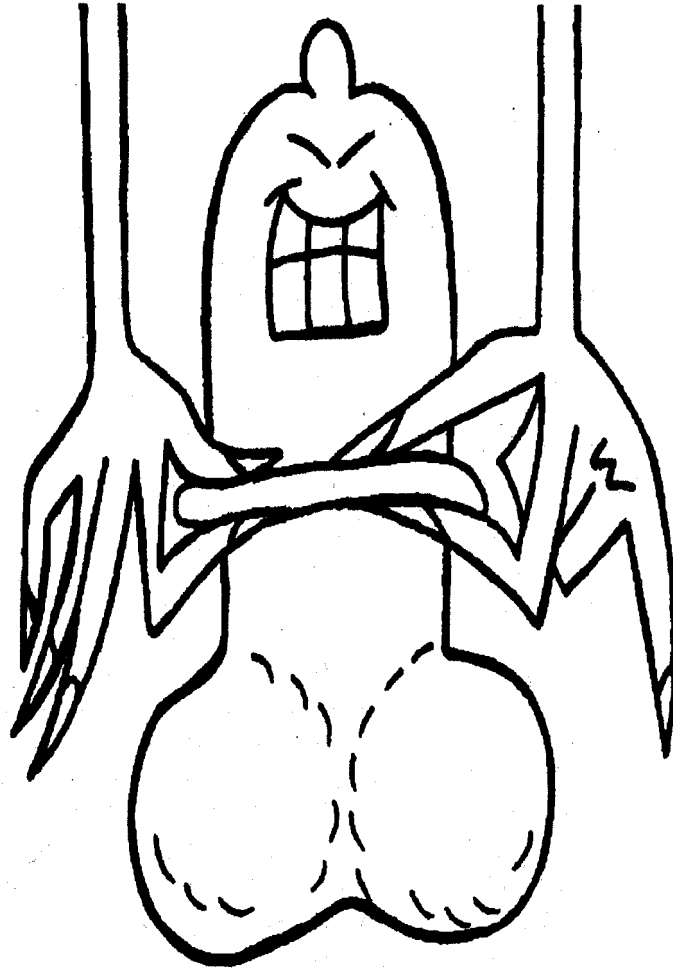
**Telling persons that they must use condoms is not enough to ensure protection. They must know how to use a condom, and how to communicate with their sexual partner about safer sex.**

Individuals should be taught how to use a condom to prevent exchange of body fluids (Figure 3). Condoms are ineffective unless used correctly. The following are crucial points in condom use:

#### **Condom Use**

- **Use only new condoms.**
- **Put the condom on the penis before starting intercourse. Pre-ejaculatory fluid can transmit HIV.**
- **Put the condom on carefully, pinch the tip and unroll the condom all the way to the base of the penis.**
- **Use water-based lubricants such as "K-Y jelly". "Nonoxynol 9" has a spermicide which will inactivate HIV. Oil-based lubricants, such as petroleum jelly (vaseline), should not be used since they can weaken the latex that condoms are made of, and cause tears.**
- **After climax, slowly withdraw the penis before it relaxes and remove the condom carefully; be sure not to tear it. If the penis relaxes before withdrawal, the condom may fall off and body fluids may spill on the partner.**
- **Dispose of used condoms in the regular garbage can, or in a latrine, but not in the toilet.**
- **Condoms should be used for all forms of intercourse (rectal and vaginal).**

**Figure 3. Condoms must be put on an erect penis before intercourse and removed before the penis relaxes in order to avoid the spillage of body fluids.**



This character is based on the cartoon creations of David Thorne in the book "AIDS: Sex, Love, Disease" from the For Beginner's series of books published by Gendai Shokan, Tokyo; author M. Diamond, translator C. Ikegami.

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Reducing the number of sexual partners will decrease the chance of encountering a person with HIV. However, as with pregnancy, it may take only one sexual encounter to transmit the virus. Monogamy (one faithful sexual partner) for a long period of time is much safer than engaging in sexual activity with many people.

It is important that adolescents understand how to protect themselves from HIV infection before they are likely to start having sex. Because of their age and developmental stage, they are more at risk and have special needs. Adolescents are likely to be learning about adult roles during this time and will experiment with a variety of behaviours. They often lack the maturity to appreciate the long-term consequences of their behaviour. Thus, they may do things that they perceive to be exciting and fun without thinking of the danger to themselves or others. This is even more of a problem with HIV infection/ AIDS since the disease does not manifest itself for months or years after infection. Thus, adolescents do not associate risk behaviour with the onset of the disease.

The information in the following boxes will facilitate decision-making about sexual activities. The first list is composed of sexual activities which are absolutely safe. The second list indicates activities which are less safe, and the third list describes dangerous sexual practices.

**SAFE SEXUAL PRACTICES**

- Looking at any part of the body.
- Thinking about or imagining any part of the body.

Thus, the following are *SAFE*:

- Dreaming
- Sexual fantasies
- Reading books or looking at pictures.
- Touching and other sexual activities that involve no contact with body fluids (such as blood, semen, urine or vaginal secretions) with broken skin or mucosal surfaces.

Thus, the following are *SAFE*:

- Masturbation (touching one's genitals in ways that feel good sexually);
- Mutual masturbation (touching each other's genitals in ways that feel good sexually);
- Hugging, embracing, stroking;
- Social kissing;
- Everyday social contact (shaking hands, sharing toilets, contact sharing cups, etc.)

***LESS SAFE SEXUAL PRACTICES***

These activities include:

- Wet kissing;
- Vaginal intercourse with a condom;
- Anal intercourse (penis in the anus) with a condom;
- Cunnilingus (mouth to a woman's genitals);
- Fellatio (mouth to a man's genitals) with a condom

***UNSAFE SEXUAL PRACTICES***

Any activity involving blood, semen or vaginal secretions entering the other person's body.

Thus the following are *UNSAFE*:

- Vaginal intercourse without a condom;
- Anal intercourse without a condom;
- Mucosal contact (the lining of the mouth, vagina and rectum is the mucous membrane) with the other person's blood (including menstrual blood);
- Fellatio without a condom;
- Anilingus (mouth to a person's anus);
- Sharing "sex toys" or objects that come into contact with body fluids.

## ***INTRAVENOUS DRUG USE***

Another risky behaviour is intravenous drug use (IVDU) and the practice of sharing needles and syringes (Figure 4). During intravenous drug use, small quantities of drug are often injected repeatedly. During these injections, blood may be drawn back into the syringe. When the needles and syringes are shared, the blood from one drug user is injected directly into the next user's vein. In order to prevent this, people should be advised not to share needles and syringes and to avoid illicit intravenous drug use.

The safest approach is not to use illicit intravenous drugs. If the patient is addicted and continues to use them, he or she should practise the following:

- Always use a sterilized needle and syringe.
- When there are not enough needles and syringes to permit individual use, draw up full-strength bleach into the needle and syringe and squirt it out. Repeat this twice. Then vigorously flush with water twice to remove all traces of the bleach solution.

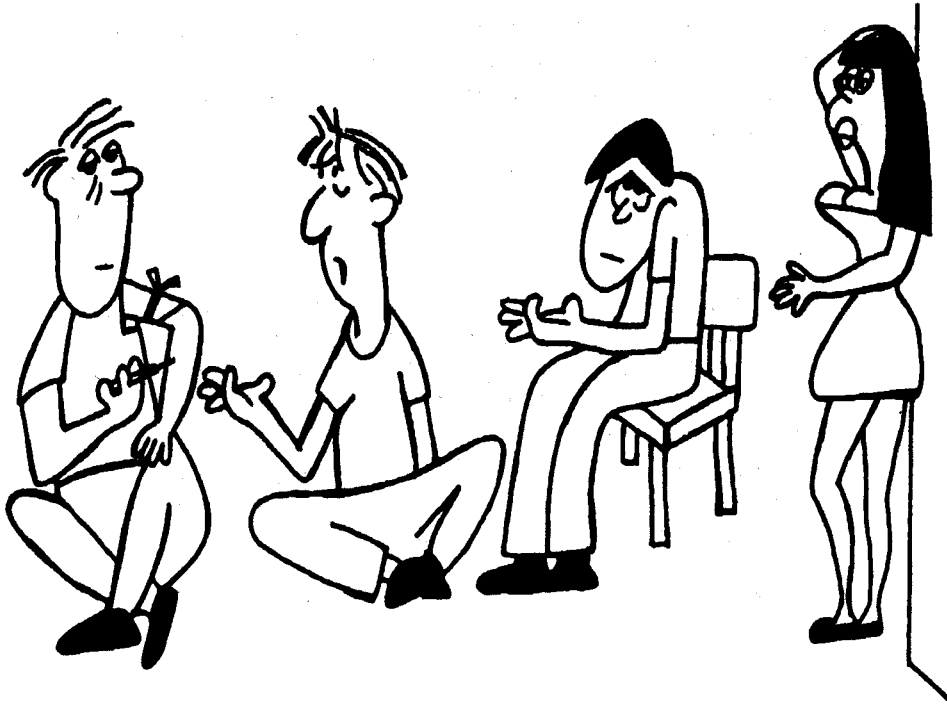
In an effort to prevent HIV transmission through needle and syringe sharing, some health care organizations supply needles and syringes free of charge to intravenous drug users. This is because there are often not enough addiction or drug treatment centres to provide treatment for all addicted persons. If the addicted persons cannot be helped to overcome drug dependency, counselling on the prevention of HIV transmission to them, their sexual partners and children, is vital.



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### 3. Prevention of HIV Transmission

**Figure 4. Sharing needles and syringes, as is often done in intravenous drug use, is one means of transmitting HIV**



These characters are based on the cartoon creations of David Thorne in the book "AIDS: Sex, Love, Disease" from the For Beginner's series of books published by Gendai Shokan, Tokyo; author M. Diamond, translator C. Ikegami.

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## **4. GROUP EDUCATION**

The dissemination of accurate health information is vital for preventing the spread of HIV. This can be assured by providing educational programmes on HIV to community groups. Such educational forums are most effective in settings where groups normally congregate, for example, schools, workplaces and churches. Groups that already exist and meet regularly, such as self-help groups, parent, youth and community groups, are also ideal for presenting this information.

**Educational programmes that are provided only after the first person with AIDS has been identified may seem to confirm a dangerous situation and may cause further fear and suspicion.**

**The early development of programmes will facilitate a higher community awareness of HIV infection, so that, as the number of persons with AIDS increases, the community will be prepared.**

Another method of education is the dissemination of information through posters or brochures. This is especially useful when aimed at groups which practise risky behaviour. Such persons may be difficult to reach since they often are not a part of recognized organizations or community groups. One way of disseminating such information is to hand out posters and brochures in localities where they live or congregate. Some of the places that should be targeted for educational campaigns are areas where groups with high-risk behaviours congregate within the community.

**Goals of a public education forum:**

- **increase knowledge of HIV transmission so f that specific risk behaviours of individuals are decreased; and**
- **eliminate individual and community discrimination against HIV-infected persons by dispelling common myths, correcting misinformation and reducing fear.**

In any presentation on HIV, there is certain basic information which it is essential for people to know in order to understand the more complex issues surrounding this problem. When addressing groups on HIV infection/AIDS, the following basic information should be provided:

- information on:
  - the seriousness of the disease
  - the number of people with AIDS
  - the number of people with HIV infection
- how the virus is spread
- how the virus is NOT spread
- how infection can be prevented (safer sex)
- the signs/symptoms of HIV infection and AIDS, including the difference between the two
- how to get more information on HIV infection/ AIDS
- screening facilities

**Figure 5. Since there is no cure for AIDS or vaccine for infection, educating the public on HIV is the most effective means of preventing its spread.**

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This character is based on the cartoon creations of David Thorne in the book "AIDS: Sex, Love, Disease" from the For Beginner's series of books published by Gendal Shokan, Tokyo; author M. Diamond, translator C. Ikegami.

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In the course of providing public education programmes, a number of concerns are often expressed. Many of these centre around the ways in which the virus is transmitted. As an educator, it is important to be knowledgeable and confident in understanding why common myths are unfounded. Only then can you lead a discussion and provide accurate information. The educator should be prepared for individuals to ask about or challenge the facts on HIV. Time should be allowed for people to express their beliefs and concerns.

One way to correct wrong ideas is to point out that the information collected over several years about the ways that HIV is transmitted remains consistent. A strong argument for refuting the myth that HIV is transmitted casually is that, if it were, there would not be any identifiable risk groups and the infection would be present equally in all age and population groups. A commonly held but false belief is that mosquitos transmit HIV. If this were true, equal numbers of people within each age category who were exposed to mosquitos would be infected.

It is also vital for anyone teaching about HIV to explore their own feelings about sexuality. As a speaker, you can model respectful behaviour, and not demonstrate a moralistic or judgmental attitude. Lecturing to any group about personal beliefs may make them less attentive. If the facts are presented, it gives the lecturer greater credibility.

At the end of any community forum, the educator can encourage people to volunteer for local support services or, if none are available, to develop new services. They can be challenged to take the information presented about HIV infection/ AIDS and share it with their family, friends and peer group.

A large amount of new information is available about this disease. One of the challenges is to disseminate current information to both public and to health care workers. Nurses, being influential within the community, have the responsibility to teach others, who will in turn disseminate these facts. This is a method which facilitates the process of rapid dissemination of information and which is being used by the World Health Organization's Global Programme on AIDS. Those attending workshops are expected to return to their communities and train others about HIV infection/AIDS, and counsel people about them. Some of those trained may not necessarily be health professionals, but other key workers who, by virtue of their function, have a responsibility to provide information.

## ***Individual counselling***

Many opportunities exist for individual patient counselling about HIV prevention (Figure 6). Settings where this information is especially pertinent are sexually transmitted disease (STD) and family planning clinics and substance abuse treatment centres. Any health care setting which provides services for sexually active individuals offers opportunities to provide preventive education and counselling.

An individual's views on sexuality are a very personal matter and are influenced by many things, including religious and cultural values and beliefs. Because these matters are so private, many people feel uncomfortable discussing sexual practices. Nurses come from the same culture and, as such, may also have personal feelings which make certain practices seem unacceptable and embarrassing to discuss. It is important for the nurse to review his/her feelings about sexuality, and weigh the deadliness of the HIV pandemic against this discomfort. When this perspective is used, it becomes obvious that an open discussion of sexuality is necessary. Information about precautions is needed so that those at risk can understand and stop risky behaviours leading to HIV infection and subsequent death.

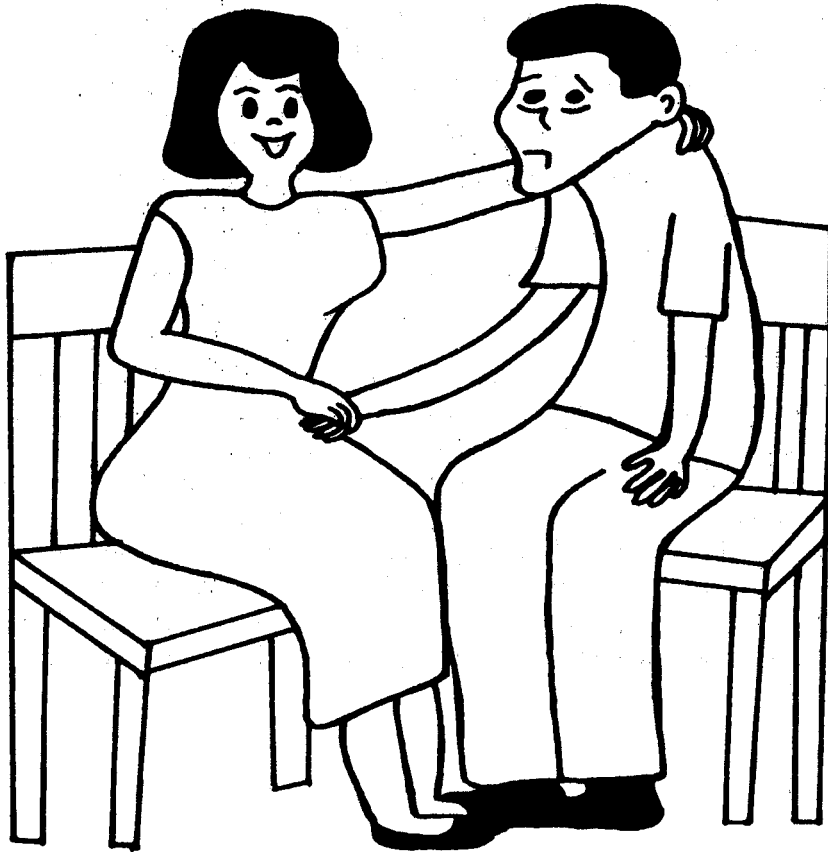
Any health care setting which provides services for sexually active individuals can offer an opportunity to counsel patients about HIV prevention.

If the nurse is embarrassed and avoids communication about high-risk behaviour with the patient, the possibility that the patient may be involved in a high-risk activity could be overlooked. When a nurse initiates such a discussion, he/she gives the patient permission to ask questions and be honest about life styles. Self-reporting of risk behaviours by the patient is the main way to assess whether or not the latter is at risk. Assessment of the degree of risk can be further completed by asking gentle, non-threatening questions. For example, questions like, "Have you ever had sexual relations with another man?" or "What are you doing to protect yourself and your sexual partners from possibly becoming infected with HIV?" are helpful in facilitating communication.

**When counselling, explore with the patient what preventive actions can be incorporated into his/her behaviour to avoid infection with HIV and other sexually transmitted diseases. In order to evaluate the education, ask the patient to repeat what precautions he/she plans to take and assess the accuracy of the response and understanding. If they are unclear, a further review and clarification of the material will be necessary.**

If in fact risky behaviour is being engaged in, the nurse and patient must discuss how such behaviour can be realistically changed to protect both the patient and the partner against infection. It is important for the nurse and patient to have a verbal contract about initiating these preventive behaviours to avoid risk. This can be done by establishing clear expectations about what the nurse and the patient understand the behaviour changes to be. This may include the types of preventive action, when they will be used, and the information that will be communicated to the sexual partner. For example, the patient will need to discuss condom use with the sexual partner, and agree that it will be used every time sexual intercourse occurs.

**Figure 6. Many opportunities exist for nurses to educate and counsel patients on preventing the spread of HIV infection.**



These characters are based on the cartoon creations of David Thorne in the book "AIDS: Sex, Love, Disease" from the For Beginner's series of books published by Gendai Shokan, Tokyo; author M. Diamond, translator C. Ikegami.



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## **5. HIV TESTING AND SCREENING**

HIV infection can be determined in the laboratory by the detection of specific antibodies which the body produces against the virus. A person who has antibodies to HIV is said to be HIV positive, or seropositive. A seropositive person is not only actively infected, but is also a carrier of the virus and can infect others.

### ***Testing***

Testing is the determination of infection or disease status for an individual. Testing programmes may be voluntary or mandatory. Voluntary testing can provide useful information for medical treatment if a person becomes ill and is suspected of having HIV infection. This service can also be offered in conjunction with information, counselling and other support services to help promote sustained behaviour change. Individuals may voluntarily present themselves because they are concerned and consider themselves at risk of being seropositive owing to past behaviour. The World Health Organization does not support mandatory testing.

### ***Screening***

Screening is the examination of entire populations or groups within populations to determine their infection or disease status. Screening programmes for HIV infection, which examine populations or groups within populations can help:

- to prevent transmission through blood supplies, semen, tissues or organs for transplant; and
- to provide epidemiological information on HIV prevalence and incidence.

There are two types of voluntary testing programme: anonymous and confidential.

**With an anonymous voluntary test**, the patient is assigned a number by the clinic test site. The number is assigned to all records of the test and test results. Demographic information such as the person's age and race may be collected, but there is no record of the patient's name or address. With the confidential voluntary test, people who choose to be tested are identified by name and address. However, the identity and test results are kept confidential.

Mandatory screening for HIV has only a very limited role in programmes for AIDS prevention and control. If HIV screening programmes are poorly designed and poorly implemented, they can be detrimental to public health and waste resources. For example, in populations with a low number of people with HIV and AIDS, the screening of the general population will lead to more false positives than true positives. Thus, getting inaccurate results makes mass screening programmes wasteful of resources. It is also emotionally costly for the individuals who are told and believe that they are HIV positive, when in fact they are not.

Screening programmes to identify seropositive individuals sometimes offer some benefit to the latter such as providing a form of treatment. Since treatments for HIV infection and AIDS are limited by both scientific and financial considerations, this cannot be provided. Some groups within society may desire screening programmes for the purpose of identifying those who are seropositive in order to isolate them. Since HIV is not transmitted through casual contact, quarantining or isolating infected people has no role in public health efforts. It would in all likelihood be contrary to public health efforts and cause those who are practising high-risk behaviour to avoid the test. Public health needs and human rights are best served by a careful consideration of the range of technical, logistical, social, ethical and legal issues before a decision is made on whether or not to proceed with a screening programme.

**Testing should be made available to anyone concerned about their health status or possible infection, and should be offered on demand routinely to particular groups, including:**

- **people who feel they are at risk**
- **people who present with sexually transmitted diseases**
- **intravenous drug users seeking treatment**
- **people who have had blood transfusions in areas of high incidence prior to blood-screening programmes**
- **high-risk women of child-bearing age (either they or their partners are at high risk)**
- **tuberculosis patients in areas of high HIV prevalence.**

### ***HIV antibody test***

The most frequently used test is the enzyme-linked immunosorbent assay (ELISA), but other antibody tests are being developed. The ELISA test has been developed to screen donated blood and blood products for the virus, and is very effective in protecting patients from receiving contaminated products. However, sometimes there are false positive and false negative results. The ELISA is an example of a test where the results may sometimes be imperfect. More specifically, there is a range of findings which can be interpreted as either negative or positive. In order to eliminate the possibility of any HIV -positive blood being administered to a patient, the point at which the test result is read as "positive" is set so that it includes all possible positive results, and some negative results that are read as positive. Within

this range, there will be some test results that are really negative, otherwise known as false positives. Subject to these precautions, the test that is truly positive is likely to show a positive result. However, because of this tendency to err on the side of false positives, a supplementary test such as Western Blot, or indirect immunofluorescence, may be used to check the results.

A negative result may be a false negative and may actually reflect the period of time after infection prior to antibody production. This is sometimes known as the "window period". Because of this time-lag, the patient should be advised to be retested six weeks after the high-risk activity.

### ***Pre-test counselling***

Testing provides an opportunity for the nurse to counsel the patient and encourage changes in risk behaviour. Informed consent must be obtained and confidentiality must be ensured. Nurses must understand the reasons for and consequences of antibody screening, and be able to communicate these to the patients who are considering taking the test.

Pre-test counselling includes:

- what the test does and does not mean (see Post-test counselling Section below);
- the possibility of a false positive or false negative result; and
- when patients should consider taking the test, and when it is not advisable to do so.

Several important factors must be considered before making the decision about whether or not to have the test performed. The reason for the patient wishing to have the test should be determined in order to know whether it is the right time and whether the reason is appropriate. Patients must consider what they will do if the test is positive. In some countries, an HIV -positive result can have serious implications for access to employment, insurance, housing and education. Patients should be made aware of the possible consequences to a person with a positive test living within their locality.

## ***Post-test counselling***

**Negative results.** The nurse should explain that a negative test result in most instances means that the test is actually negative. However, there is a possibility that it is a false negative. This is because the virus is in the body but there is no HIV antibody in the blood, or because there is HIV antibody in the blood, but the test failed to detect it. In either case, possible risks remain and it is important to teach patients about protecting themselves and their sexual partners from exposure. In addition, the patients should consider having the test again if they have engaged in risk behaviour.

**Positive results.** First, it is important to explain to the patient that this is not a diagnosis of AIDS, but a detection of the presence of antibodies to the virus. The patient may respond with a variety of feelings, including shock, fear, denial, despair and thoughts of suicide. This may progress to depression or anger. The nurse should look for signs of depression and potential suicide.

**A positive HIV antibody test does not necessarily mean that the person has AIDS, but indicates that the body has developed antibodies to the virus. Such a person is considered infectious for life.**

Some patients may perceive this to be a punishment due to bad behaviour. It is important to clarify that this is only a consequence of a behaviour, and not a punishment.

The patient should receive referrals in anticipation of possible needs. This may include a mental health caregiver, a support group for people with HIV infection, or a place where the patient can obtain more information as questions come up.  
Over

time patients may have questions, such as whether or not they are able to have children, and when they will get sick or die. As with any counselling or educational session, some of the information will not be fully understood the first time it is heard.

Patient education must include how to protect themselves and others. The fact that this infection is lifelong and that there is a risk of infecting others should be made clear. When presenting for medical or dental care, seropositive persons should notify health care workers of their status. They should not donate blood, semen, tissues or organs. Confidentiality of information is particularly important. Access to information should be on a "need to know" basis - the key information that any staff need to protect themselves is "blood precautions apply".

Spouses or partners must be told, even though telling them may be difficult, and considerable support may be needed from the nurse. Spouses or partners should also consider preventive counselling and testing where it is feasible and indicated.

Education on how to avoid illnesses should be provided. Tobacco, alcohol, and other drugs can strain the body and precipitate the onset of illness. Maintaining optimal health can be enhanced by proper amounts of sleep, eating a variety of foods, and exercising as tolerated. The signs and symptoms of AIDS should be reviewed. Women who are HIV infected must know that HIV can be transmitted to unborn babies and newborns.

**HIV-infected people who are in good health can be assured that, until signs of AIDS appear and they become ill, they are fully able to maintain a socially and economically productive life. Encourage them to keep their jobs, to remain with their family, and to endeavour to lead as normal a life as possible.**

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## **6. MATERNAL AND CHILD CARE**

Evidence concerning the transmission of HIV from infected mothers to their infants suggests that about 30 to 50 percent of offspring are infected. The risk of transmission depends on a number of factors, such as the time when the mother became infected, her immunological and overall health status, and parity.

Counselling for prevention must include information for women who are infected or who have an infected partner.

**Women who are infected with the human immunodeficiency virus have a high chance of passing the virus on to their infants before or during the birth, or after through breastfeeding.**

The following groups of women should be offered counselling services, preferably before pregnancy:

- women who are HIV seropositive;
- intravenous drug users;
- women with many sexual partners;
- women whose sexual partners have or have had multiple sexual contacts;
- partners of bisexual men or intravenous drug users;
- women who have had known seropositive partners;
- women with other STDs.

The potential risk to the infant and to the mother must be carefully explained. The decision to avoid pregnancy as long as the woman is at risk and possibly to terminate an existing pregnancy depends on national policies and cultural beliefs and values. If pregnancy does occur, strict antenatal care is desirable and, if possible, the infant should be delivered in an institution with a high level of perinatal support. During delivery, full infection control precautions must be observed (as they should in any case, regardless of the HIV antibody status of the mother). In many countries, deliveries are performed by traditional birth attendants; as part of the health worker team, these attendants must be educated on how to prevent the transmission of blood-borne infectious agents such as HIV during delivery.

### ***Breast-feeding and HIV***

The extent to which breast-feeding is an important source of transmission of HIV is not known; the likelihood is that its role is small. In any case, the advantages of breast-feeding generally outweigh the possible risk of infection.

***The immunological, nutritional, psychosocial and child-spacing benefits of breast-feeding are well recognized in national and international policies on maternal and child health. Breast-milk also helps to prevent intercurrent infections, which could accelerate the progress of HIV-related disease in already infected infants. Breast-feeding should therefore be encouraged.***



## ***Children and HIV infection***

Throughout the world, increasing numbers of children with HIV infection are being reported. They may have become infected in any of the following ways:

- through being born to seropositive mothers;
- through exposure to contaminated blood or blood products, or unsterile needles/syringes;
- through skin-piercing procedures (as of the ear and nose), tattooing, scarification, circumcision, etc.;
- through sexual contact.

Children with seropositive mothers are often born prematurely and need special medical and nursing care. Infected infants are more likely than HIV-infected adults to develop AIDS, and the incubation period is often shorter. Children with AIDS usually fail to thrive and have serious recurrent infections (the usual childhood diseases included).

Children who are infected are generally not a threat to others in the home or school and infection should not be an obstacle to foster care. Intensive and continuous education of people around them is essential to prevent these children from being stigmatized. Full infection control precautions must be taught and applied routinely in all schools and in foster care, and older children need to be very carefully and repeatedly counselled regarding sexual practices. If a child's development is delayed or the child is admitted to hospital, special provision may need to be made locally for his or her support and education, by including the family and local community in the child's case management.

## ***Childhood immunization and HIV infection***

The theoretical risk of immunizing a child infected with HIV must always be weighed against the benefit to be gained from immunization. In the present state of knowledge, the benefit far outweighs the risk. However, HIV -infected infants or children who are immunized generally have a lower level of protection from the vaccines than uninfected children.

In countries where HIV infection is a problem, children, including those with asymptomatic HIV infection, should continue to be immunized with vaccines recommended by the World Health Organization according to standard schedules. However, non-immunized children with symptomatic AIDS should not receive BCG. They should, nonetheless, receive the other vaccines.

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## **7. NURSING CARE IN SYMPTOMATIC HIV INFECTION**

The development of symptoms after infection with HIV may take as long as several months or years. Since the incubation period (from the point of infection to the first signs of disease) is so long, it is not known whether all infected people will necessarily become ill. As time has passed since the discovery of HIV, it appears that a growing percentage of those who are infected will eventually develop the disease. Experts are hesitant to project that all seropositive people will eventually develop illness since it may diminish hope for those who are well (asymptomatic) and infected with HIV.

Of all health care workers, nurses will spend the greatest amount of time with patients and their families. Therefore, they are in a key position to assess the patient's needs and must be keenly sensitive to identifying them as they arise.

The overall goal of patient care is to relieve physical symptoms and maximize the level of functioning. Meeting these goals is crucial to the patient's physical and psychological comfort and well-being. Nursing interventions should be developed on the basis of these needs and appropriate referrals should be made as necessary. Knowledge of the available community and medical resources and referrals of patients to them are crucial for optimal care.

**The goal of nursing care is to relieve patients' physical symptoms and to maximize their level of functioning.**

## ***Utilizing the nursing process to develop a plan of care***

The nursing process provides a systematic way of providing thorough, individualized and quality patient care. A review of this process will first be presented and then followed with material specifically on AIDS patient care.

The patient and family should be actively involved in the process of determining what health needs will be addressed. This will facilitate the patient's commitment and cooperation in achieving goals. When the planning of nursing care is done in partnership with the patient and family, the chance of setting realistic goals and obtaining a successful patient outcome through cooperation is enhanced.

The nursing process includes the following phases:

- assessment
- interpretation of data
- nursing diagnosis
- planning of care
- implementing the plan
- evaluating the effectiveness of care.

**Assessment.** The assessment phase requires the collection of information on both physical and psychosocial levels. This information should be factual and specific, and not reflect the opinion or bias of the nurse. Examples of assessment activities include:

**Physical assessment** - Taking vital signs, listening to breath sounds with the use of a stethoscope.

**Interview** - Obtaining patient history and report of current symptoms and risk behaviours.

**Observation** - Using senses (sight, smell, touch, hearing) to gain information, and then interpreting the significance of the observation. For example, it is noted that a patient's breathing is shallow and laboured. The nurse could interpret this as

resulting from pain or respiratory difficulty. It is important for the nurse to use her knowledge to discern the reason.

**Data interpretation.** Once the information is collected and reviewed, the next step is to identify actual and potential problems which nursing interventions must address and prevent.

**Nursing diagnosis/problem identification.** A nursing diagnosis describes the patient's response to a disease process, condition or situation. It is expressed in two parts:

1. Description of patient's response
2. Probable cause of the response.

Examples of nursing diagnoses are: (1) impaired physical mobility related to pain and (2) alteration in nutrition that is, intake is less than body requirements.

**Planning of care.** The identified problems should then be prioritized according to their urgency. Individual goals (also thought of as desired outcomes) are written for each problem. These goals should be written in measurable terms. A period of time for goal achievement should be identified in order to evaluate progress in the future.

Next, a plan of care is written identifying problems, nursing interventions and expected outcomes. A suggested format is shown in Figure 7.

**Implementation.** Implementing the plan of care should follow the directives as set out in the Plan of Care.

**Evaluation.** Evaluation can be carried out by reviewing expected outcomes and noting whether or not they have been achieved. If the goals are achieved and the problem is resolved, the nurse should indicate this by signing her name and the date under the "resolution column" (see Figure 7). If the problem is not resolved, the nursing intervention may need to be changed to be more effective, or the goal may need to be changed to be more realistic. Sometimes the interventions are adequate and simply need to be continued for a longer period of time. Evaluation should be conducted at a specified time which is projected for the future when writing the plan of care. It should also be done on a daily basis to modify interventions that are not effective in meeting the goal.

**Figure 7. Nursing plan of care**

Date/ signature	Problems (actual or potential)	Nursing interventions	Goals/expected outcomes	Evaluation	Resolution
26/6/89 P. Hale RN	<p>What is needed?</p> <p>Ineffective individual coping, fear and anxiety related to HIV-positive test results</p>	<p>What should be done and how often?</p> <p>Establish nurse-patient relationship by providing time for patient to express feelings and ensuring an atmosphere of support (ongoing). Identify and assist patient in involving supportive persons (family and friends).</p>	<p>Stated as opposite of need, in realistic measurable terms</p> <p>Patient will express feelings and concerns freely after one week.</p>	<p>How will it be evaluated?</p> <p>Patient expresses that needs are met. Evidence of feeling of adequate support as shown by participation in care.</p>	

The nursing process can be used in all nurse-patient interactions, regardless of the setting of care. The assessment phase may vary depending on the services delivered by the agency. For example, a person who visits an outpatient clinic with the intention of having the HIV antibody test may not require an extensive physical examination. This will depend on whether or not the patient is experiencing symptoms. An interview with the patient will provide assessment data, which determines whether the nursing interventions will include education, counselling and physical assessment, or just education and counselling.

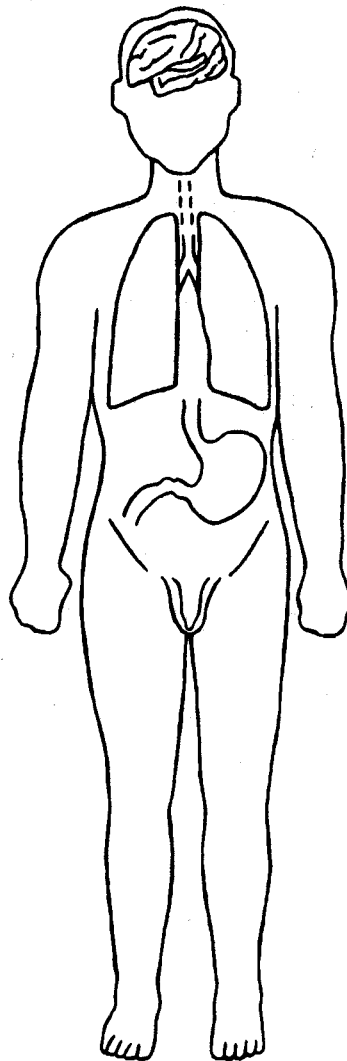
### ***Symptoms of HIV illness***

The effects of HIV infection vary greatly from person to person and may affect many organ systems as noted in Figures 8 and 9. Within three to eight weeks after infection, the person generally develops an acute illness lasting from two to three weeks with symptoms such as fevers, rash, joint and muscle pain, and sore throat. Other than such symptoms, they are likely to stay healthy for a long period of time.

### ***AIDS-related condition or complex (ARC)***

Other symptoms of HIV infection may occur over time. This collection of signs and symptoms is often referred to as AIDS-related complex or condition (ARC).

**Figure 8. The signs and symptoms of HIV infection or AIDS may affect many systems of the body including the central nervous system, respiratory tract and gastrointestinal system.**





**Symptoms and illnesses associated with HIV illness can include:**

- **swollen lymph glands**
- **fatigue**
- **fever or night sweats**
- **persistent diarrhoea**
- **weight loss**

***Acquired immunodeficiency syndrome***

There are two definitions of the AIDS diagnosis that are accepted for reporting to the World Health Organization (WHO). One, developed by WHO is based on clinical signs, and the second, from Center for Disease Control(CDC)/WHO is based on HIV antibody test results and on diagnosing accurately other diseases frequently associated with AIDS. The definition used for a specific country will depend on the capability to perform the HIV antibody test.

### ***CDC/WHO case definition of AIDS for surveillance purposes***

This diagnosis of AIDS is based on clinical signs and the results of the HIV antibody test. A diagnosis of AIDS is made when a person has one of a list of specified diseases (opportunistic infections and selected cancers) which are indicative of an underlying immune deficiency. Other causes of immune deficiency must be ruled out.

### ***WHO clinical case definition for AIDS in adults and children where diagnostic resources are limited***

AIDS in an adult is defined by the existence of at least two of the following major signs associated with at least one minor sign, in the absence of known cases of immunosuppression such as cancer or severe malnutrition or other recognized etiologies.

**a. Major signs**

- loss of weight -at least ten percent of body weight
- chronic diarrhoea -for at least one month
- prolonged fever -for at least one month

**b. Minor signs**

- persistent cough for at least one month
- generalized pruritic dermatitis
- recurrent herpes zoster
- oropharyngeal candidiasis

- chronic progressive and disseminated herpes (simplex) infection
- generalized lymphadenopathy

The presence of either generalized Kaposi's sarcoma or cryptococcal meningitis alone are sufficient for the diagnosis of AIDS.

Paediatric AIDS is suspected in an infant or child presenting with at least two of the following major signs associated with at least two of the following minor signs in the absence of known cases of immunosuppression, such as cancer or severe malnutrition or other recognized etiologies:

**a. Major signs**

- weight loss or abnormally slow growth
- chronic diarrhoea longer than one month
- prolonged fever longer than one month

**b. Minor signs**

- generalized lymphadenopathy
- oropharyngeal candidiasis
- repeated common infections (otitis, pharyngitis, etc.)
- persistent cough
- generalized dermatitis
- confirmed maternal HIV infection

AIDS is characterized by the presence of opportunistic diseases. Many of these diseases are caused by organisms which seize the opportunity offered by the body's weakened immune system to grow, multiply and cause disease. They also occur in people with artificially depressed immune systems due to drugs. These drugs are often given to patients with cancer or organ transplants. In healthy individuals these organisms would not cause disease. The most common opportunistic diseases, their symptoms and the affected organ system are noted in Figure 9.

**Figure 9. Opportunistic diseases of AIDS**

Opportunistic organisms	Signs/symptoms	Affected system/organ
<p><b>Fungal infections</b></p> <p>Candidiasis</p>	<p>White patches</p>	<p>Mouth, tongue, oesophagus</p>
<p>Cryptococcosis</p>	<p>Meningitis, headache fever, malaise, stiff neck, photophobia</p>	<p>Central nervous system (CNS) Lungs</p>
<p><b>Protozoan infections</b></p> <p><i>Pneumocystis carinii pneumonia</i></p>	<p>Shortness of breath, dry cough, fever, fatigue</p>	<p>Lungs</p>
<p>Toxoplasmosis</p> <p><i>Cryptosporidium enteritis</i></p>	<p>Hemiparesis, seizures, aphasia Diarrhoea, severe weakness</p>	<p>CNS, lungs Small and large intestines</p>
<p><b>Bacterial infections</b></p> <p>Disseminated <i>Mycobacterium avium</i></p>	<p>Fever, weight loss, fatigue, anaemia</p>	<p>Bone marrow, lymph node, liver</p>
<p><b>Mycobacterium tuberculosis</b></p>	<p>Productive purulent cough, fever, fatigue, weight loss</p>	<p>Lungs, GI tract, lymph nodes, bones, joints</p>
<p><b>Noncongenital viral infections</b></p> <p>Cytomegalovirus</p>	<p>Blurring of vision due to blindness from retinal destruction</p>	<p>Eyes, lungs, CNS</p>
<p>Herpes simplex</p>	<p>Painful swollen gums, Painful vesicles, Pain, ulceration, headache, personality change, fever</p>	<p>Oral, Genital, Anorectal, CNS</p>

Several types of cancer have been seen in people with AIDS. The most common is Kaposi's sarcoma, which causes pink or purple flat or raised areas on the skin, mucous membranes or internal organs. Lymphomas are cancers of the lymph system, which also occur.

In addition to infecting the cells of the immune system, HIV may also infect the tissues of the central nervous system (brain, spinal cord and nerves). HIV infection of the central nervous system is very serious and is now more commonly recognized. It results in a dementing illness that resembles Alzheimer's disease. Certain other infections may also affect the brain, such as cytomegalovirus, toxoplasmosis and cryptococcal infection. Even in the absence of the above, HIV infection of the brain can be fatal.

### ***Treatment***

Treatment can be aimed at the HIV infection itself or at any of the opportunistic diseases which may occur. The antiviral medication used in some countries is zidovudine or (azidothymidine) AZT. AZT inhibits the replication of retroviruses but does not kill the virus. In certain people with AIDS and HIV illness, AZT has been shown to reduce morbidity and mortality.

It is likely that the use of AZT may be limited. First, it is very expensive: medication for one month costs approximately US\$ 700. Second, even though many people have benefited from the drug, some experience side effects and must discontinue use.

Many of the opportunistic diseases can be treated. Compared with other patients, patients with HIV infection may be more difficult to treat, and the medications often have more severe side-effects. Figure 9 lists the most common opportunistic diseases and respective treatments.

## ***Commonly occurring problems in the patient with AIDS and respective nursing interventions***

Most of the problems encountered in HIV infection are well-known to nurses, even though the underlying causes may be different. Following is a list of the problems, their cause, an example of a nursing diagnosis, and appropriate nursing interventions.

**Nursing Diagnosis:** Alteration in elimination -Diarrhoea related to opportunistic infection.

**Problem:** Diarrhoea

**Nursing Interventions**

**Possible Causes:**

*Cryptosporidium*

*Kaposi's Sarcoma*

*Mycobacterium  
avium-*

*intracellulare*

*Cytomegalovirus*

Medication

Unknown

1. Perianal skin care - after each bowel movement, clean area with warm soapy water. With soft cloth, gently pat dry to prevent weakened skin from tearing. Apply skin protection such as petroleum jelly if available.
2. Assess for complaints of discomfort and areas of excoriation or inflammation.
3. Encourage fluids such as broths and juices to replace lost fluids and electrolytes (potassium, sodium).
4. Offer small amounts of low-fibre food every two hours.
5. Administer antidiarrhoeals as prescribed.
6. Assess for fecal impaction where overflow of stool may be occurring (digital exam).

**Impaired nutrition is common in HIV infection and AIDS. Anorexia may result from nausea and vomiting, and diarrhoea often compounds the problem of weight loss.**

**Nursing Diagnosis: Alteration in nutrition - Less than body requirements related to nausea and vomit**

**Problem: Nausea and vomiting**

**Nursing interventions**

**Possible causes:**

*Cryptosporidium*

Cryptococcal meningitis

Cytomegalovirus (CMV)

*Mycobacterium avium  
intercellulare* (MAI)

*Pneumocystis carinii  
pneumonia* (PCP)

Unknown origin

1. If vomiting, do not give anything by mouth for 2 hours, then offer ice chips, clear liquids. Progress to soft diet as tolerated.
2. Provide meticulous oral hygiene since it prevents painful infection and appetite loss. Prevent mouth from drying by keeping water at bedside.
3. Administer anti-emetics as prescribed; give 30 minutes before meals.

**Nursing Diagnosis:** Alteration in body temperature -  
Hyperthermia related to HIV or oppor-  
tunistic infection.

**Problem:** Fever

**Nursing Interventions**

**Possible Causes:**

HIV infection

Drug reaction

Cryptococcal meningitis

CMV

*Cryptosporidiosis*

MAI

TB

PCP

Unknown

1. Monitor temperature every four hours.
2. Administer antipyretic as ordered.
3. Encourage fluids as tolerated.
4. Give tepid baths, ice or cooling pack/blanket.



**Nursing Diagnosis:** Alteration in oxygenation - Impaired gas exchange related to hypoxemia.

**Problem:** Dyspnea

**Nursing Interventions**

**Possible Causes:**

*Pneumocystis carinii*

pneumonia

*Kaposi's sarcoma*

Tuberculosis

CMV pneumonitis

1. Assess respiratory status every two hours - note respiratory rate and quality, presence of cough, skin colour.
2. Teach the patient how to make breathing easier by the following:
  - elevating head of bed or sitting up as tolerated.
  - relaxation techniques to decrease anxiety and conserve oxygen when breathing is difficult.
  - pursed lip breathing to decrease respiratory rate. Teach the patient to purse the lips as if about to whistle, to breathe out slowly, making a slow whooshing sound, not to puff cheeks and feel abdomen fall.
3. Teach the patient about the signs and symptoms of infection, and use of oxygen and other medications as necessary.
4. Determine if the patient and family understand the plan of action if symptoms worsen, such as referral to hospital or palliative care in the home.

**Nursing Diagnosis: Pain related to muscle aches from immobility.**

**Problem: Pain**

**Nursing Interventions**

**Possible Causes:**

Oedema

Candidiasis

Immobility

1. Assess location, type and intensity of pain.
2. Evaluate patient's perception of pain.
3. Administer analgesics as ordered around the clock.
4. Reposition patient to alleviate pressure points.
5. Light massage.

**Nursing Diagnosis:** Alteration in thought process -  
Confusion related to neurological  
changes or stress

**Problem:** Cognitive  
impairment

**Nursing Interventions**

**Possible Causes:**

Depression  
HIV infection  
Other infection  
Medications  
Substance abuse

1. Assess baseline mental status.
2. If patient is confused, speak in calm manner, give one instruction at a time and repeat information if necessary. Avoid disagreements with patient as this may cause anxiety.
3. Prevent injury by keeping environment clear of unnecessary hazards.
4. Use memory cues such as familiar objects, calendar.
5. Provide family support and instruct caregiver or family about above interventions.

**Nursing Diagnosis:** Alteration in self-care - Self-care deficit related to fatigue and weakness.

**Problem:** Fatigue and weakness

**Nursing Interventions**

**Possible Causes:**

HIV infection  
Changes in nutritional status

1. Involve patient in planning for needs.
2. Encourage frequent rest periods and intermittent activity.
3. Identify supportive devices, means of conserving energy - commode, walker, cane.
4. Instruct and supervise family or caregivers in assisting with hygiene, mobility, feeding and psychological support.
5. Refer to occupational or physical therapy available for assistance in daily living and mobility.

**Nursing Diagnosis: Alteration in physical integrity - Impairment of skin integrity related to immobility**

**Problem: Skin breakdown**

**Nursing Interventions**

**Possible Causes:**

*Herpes simplex or zoster*

*Kaposi's sarcoma*

Hairy leukoplakia

*Candidiasis*

1. Reposition patient every two hours.
2. Keep skin clean and dry.
3. Expose lesions to open air.
4. Moisturize skin with lotion to prevent drying.
5. Massage to improve circulation to area of skin over bony prominences.
6. Assess skin for reddened pressure areas, which are a forewarning of skin breakdown.
7. Mouth care should be done three times daily and before the administration of topical antifungal medication.
8. Teach caregivers with draining wounds or lesions on their hands to wear gloves.

**Nursing Diagnosis: Alterations in meaningfulness -  
Hopelessness related to death.**

**Problem: Depression**

**Nursing Interventions**

**Possible Causes:**

Dementia

HIV seropositive status

1. Set time aside to talk to the patient and allow him/her to express his/her fears and concerns. Give information about those areas that the patient has expressed concerns about.
2. Involve the patient in planning and providing own care as much as he/she is able.
3. Identify the patient's interests and explore involvement.
4. Identify ways in which the patient has coped with problems in the past to identify strengths and weaknesses.

**Nursing Diagnosis: Alterations in knowledge - knowledge deficit related to the disease process**

**Problem: Knowledge deficit**

**Nursing Interventions**

1. Assess the caregiver's environment and baseline understanding of HIV and its transmission. Instruct the patient on HIV transmission and safer sex practices.
2. Instruct caregivers in utilizing universal precautions.
3. Both patient and environment should be kept as clean as possible to prevent the patient from becoming ill or injured.

## ***Psychosocial issues and counselling needs***

A person experiencing symptoms as a result of HIV infection may easily become overwhelmed by intense, painful feelings. Uncertainties exist for such individuals as to whether or not they will remain healthy.

The patient may experience multiple losses. A loss of physical capabilities or normal functioning may become a major preoccupation. Tiny increments of change may be monitored and interpreted as signs of improvement or decline. The nurse should allow the patient to express his/her thoughts, concerns, and feelings. Through active listening, the nurse can facilitate the problem-solving that may occur as the patient expresses feelings and worries. Patients should be supported and encouraged in this endeavour. The nurse can offer hope each day and assist patients in using their strengths in achieving their goals.

The potential isolation and alienation of patients by friends and family, fearful of coming into contact with them, can further compound the helplessness that a patient feels when becoming ill with a life-threatening disease. One of the most therapeutic events for a sick person is his or her return to a "normal" life. This includes being asked to resume typical activities, such as work and involvement in other groups. The support of family and friends and a return to as normal a life as possible is vital, since the patient may otherwise feel entirely alone in facing an overwhelming experience.

Sometimes the feeling of despair may be so great that suicide is perceived as the only means of gaining control or putting an end to painful feelings. It is important to identify and be sensitive to the magnitude of these feelings within the patient in order to facilitate social support and professional counselling.



## ***Home care***

In some localities, the greater part of care for HIV patients is provided in the home. Nurses visit patients and families at home and provide physical and psychological support which may otherwise have been offered in the hospital. Home care is an advantage since hospitals in many areas are under tremendous strain from caring for AIDS and other patients. Other areas of health care can be expected to experience an overload in their capacity to care for patients in the near future.

Patients with AIDS are often more content if they are cared for at home. It is often conducive to improving care since families are more accessible. In the home, the nurse is able to assess both the role each family member will play in caring for the patient and the home environment. The provision of education and partnership in care is made easier since the family plays a more active role.

Another advantage of the development or broadening of home care services is the strengthening of chronic disease management in the home. Since nurses provide most chronic disease services, this is an area in which nursing leadership is clearly needed. In many parts of the world, home care nursing services are being introduced or extended in order to ease the burden on local hospital facilities and to provide improved patient care.

## **8. CARE OF THE DYING PATIENT**

The difficulties experienced by patients who are dying of AIDS are similar to those faced by all dying patients. These may include fear of pain and disfigurement and loss of independence. The dying patient often feels angry at himself/herself and others. There may be regret that things should have been done differently or feelings that death is a form of punishment. There may also be denial and a period of adjustment when the patient must realistically assess his/her capabilities to perform certain activities.

Persons dying from any illness experience intense grief. The loneliness is magnified if they feel that dying is the first and only thing they will be doing entirely on their own. Since alienation as a result of discrimination and fear is often a factor in AIDS, there is a potential for the loneliness felt during the grieving process to be compounded.

The focus of nursing care at the end of life is concentrated on palliative care. Palliative care is intended to relieve symptoms rather than to cure the underlying disease. During this time, physical and emotional comfort and counselling and, spiritual care may be needed by both the patient and family. After the death of the patient, bereavement counselling may be helpful to the family.

Many dying patients can be cared for at home. Thus, the nurse must also supervise and teach the family and other caregivers about the provision of patient care. Monitoring patient comfort and arranging for needs to be met form part of the advocacy role of the nurse.

An assessment of the patient's support system and resources should be made so that gaps can be identified and needs met. The patient and family or caregivers should be involved in determining which services are required. As early as possible, the

patient should be asked about his or her desires and requirements for care. This expression of the patient's desires to both the family and nurse will be therapeutic for the family during the bereavement process. The treatment goal and explicit plans as to how the patient and family will respond to deteriorating health must be determined and clearly communicated to all those involved in the patient's care.

Careful planning can help to prepare the family, provide optimal support, and reduce the fears of the patient and family. Teaching the family about the signs of illness, what to expect of the dying process and stimulating confidence in their ability to provide appropriate care can give the patient and family the strength to carry out identified plans.

## **9. COMMUNITY PROGRAMMES AND LOCAL RESOURCE DEVELOPMENT**

Since the beginning of the AIDS epidemic, nurses have assumed a leadership role within their work environment and community. In communities which have not yet determined how they will prevent the transmission of HIV or how care will be provided, nurses may need to initiate the development of such services. Examples of some community-based services are home care (such as skilled nursing care and personal care services), counselling and long-term care programmes (such as health centres, nursing homes).

Some health services may already exist within the community and may be able to provide some of the necessary services. For example, there may be:

- services which have been or are in the process of being developed which are specifically for HIV/AIDS;
- services which may be adapted or expanded to include HIV -related care, such as village health centres and sexually transmitted disease clinics;
- people, agencies or institutions who may be interested in taking a leadership role in education and service development;
- financial assistance available to support service delivery.

The development of community-based support services requires a coordinated team approach. Representatives should be from multiple disciplines, such as women's groups, youth groups, church groups, etc. in order to meet the medical, psychosocial and educational needs resulting from HIV infection. In some communities, village welfare groups or self-help groups may be available to assist in providing information about AIDS and providing support. The following guidelines provide a means

for facilitating community development of services to meet the added demands of HIV on the health care delivery system.

When available, information on the total number of people with AIDS and the number of people who are seropositive within the community or country is useful. This can provide direction for the types of services that are needed. For example, if there have been no reported cases of AIDS in a given country, more effort and resources should be directed towards education to prevent HIV transmission.

In addition to these statistics, estimates of projected increases in the infection rate in the community can be presented to local care providers and community leaders. This will facilitate appreciation of the potential severity of the problem and motivate people to action.

### ***Development of a community task force***

If a village board or other group does not exist, a community task force can be established to act as a central coordinating body for education and other volunteer activities.

The membership of the task force should be multidisciplinary and include health care professionals and others. The following people should be included in the task force:

- nurses, doctors and other public health and mental health professionals to provide technical and professional support;
- representatives from groups that have been affected by HIV such as prostitutes, homosexual and bisexual men, intravenous drug users and haemophiliacs. The affected groups will vary from area to area. Such people will be instrumental in planning effective educational and service programmes targeted at the groups they represent.

- people with HIV infection and their families, who can express their personal experience about deficiencies in existing services;
- representatives from other active community groups such as businesses, schools, churches, women's groups. These people will influence community norms and will help determine what responses are acceptable. They will also give the programme visibility, and garner support and respect for the services and patients.

The goals of such a task force are to prevent and control the spread of HIV infection, and to assist in the provision of support services.

These goals can be achieved through the following:

- education to reduce fear and to prevent HIV transmission. Education should be targeted at the general public, people at risk, and health and human service providers.
- coordination of medical, psychosocial, emotional and financial support services for HIV persons through the use of existing programmes, if available.
- public policy formation.
- fund raising.
- media and publicity activities.

### ***Task force activities***

When planning and implementing community-based services, the task force should network with specific, local professional services.

These professional groups should include:

1. public health, sexually transmitted disease and family planning clinics;
2. hospital personnel;
3. hospice and home care providers;
4. police and emergency responders;
5. intravenous drug use treatment centres and other mental health groups.

Early communication with these groups and provision of education can allay fears and stimulate awareness about the need for support and action. A forum for interchange of information on HIV can be planned and the task force can respond to needs as the professionals perceive them. Such people can assist in the dissemination of accurate information about prevention and control of HIV infection within their workplace, and identify existing services or foster the development of new support services within their agency.

## ***Support services***

People with HIV infection/ AIDS require a variety of support services which draw on a broad range of community organizations. Some communities may be equipped to satisfy the required needs, but others will have to develop a structure for providing some services.

To coordinate and expand existing services, a community-based programme should take the following steps:

1. identify existing resources - medical, psychosocial, educational, emotional, financial and legal – in the community. It is important that these resources should be sensitive to the needs of an HIV-infected person.
2. develop a reference manual of these resources, including the name of the organization, address, phone and contact person. The manual should be distributed to all organizations listed in the manual, to the local hospital and public health department, and other interested groups.
3. develop a list of people who are willing to give presentations about HIV infection and AIDS. If a group requests a presentation, the opportunity to provide information can be met. Getting information out early is important, so that if a person in the community develops AIDS, the appearance of a cover-up can be avoided and the necessary support garnered.
4. recruit volunteers to help provide for the basic needs of a person with AIDS. Some examples are assistance with cleaning, shopping and transportation. Friends, family members and representatives from groups who have been the most affected may be among the first to volunteer.



5. develop support groups for HIV-infected persons and their families. It is necessary to be creative and open to the expressed needs of the group members. The groups should meet on a regular basis. Nurses, counsellors or others should be recruited to facilitate group discussions.

### ***Coordination of the community-based programme***

The following steps have been shown to facilitate coordination of services at the community level in both urban and rural settings:

1. Hospitals and public health institutions should develop a planned response to the AIDS epidemic which includes professional and public education, and clinics for HIV screening and counselling.
2. The community-based organization should work with the hospital or public health department to provide preventive education to the community.
3. The task force can coordinate the efforts of service providers in their educational outreach.

A well-organized community-based programme can enhance the tone of community acceptance of education and care of HIV -infected persons. Health care professionals should inform and persuade local and regional politicians to create legislation which will:

- decrease discrimination in schools, the workplace and housing;
- develop effective policies on HIV antibody testing; and
- promote medical confidentiality

Depending on special needs and responses to HIV infection in the community, programmes may have to be revised. A periodic evaluation using similar indicators to those used in the initial assessment is important to ensure the effectiveness of the programme. The following are questions that may be helpful in the evaluation:

- Are resources meeting the need for services?
- Are resources being used?
- Is the community aware of the available services?
- Is the community knowledgeable about HIV infection?
- Is the incidence of HIV infection decreasing?

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## **10. INFECTION CONTROL**

HIV has been found in various body fluids of people infected with the virus. However, only blood, semen, and vaginal/cervical secretions (and rarely, breast milk) have been implicated in HIV transmission. Nevertheless, as all body fluids (including pus and other infected discharges and infected body cavity fluids, such as pleural fluid and cerebrospinal fluid) may contain blood or white blood cells, it is essential that all body fluids should be handled as though they were infectious.

Transmission has been reported very rarely from patient to nurse through needle- stick injuries or exposure of mucous membranes to blood. Infection can also pass from patient to patient, as well as through the re-use of improperly sterilized needles.

- Infection control in providing patient care consists of:
- precautions in relation to blood and other body fluids;
- precautions in relation to injections and skin piercing;
- effective use of sterilization and disinfection.

In countries with limited health care resources, it may not be possible to adopt all the recommendations outlined below. If limited resources prevent a particular recommendation from being adopted, an effective alternative based on infection control principles should be devised.

### ***Precautions in relation to blood and other body fluids***

**Handwashing.** Hands and other parts of the body that have been contaminated with blood or body fluids should be washed thoroughly with soap and water (Figure 10). Hands should also be washed immediately after removal of protective gloves.

**Handwashing is the single most important procedure for the prevention of hospital-acquired infection.**

**Gloves and other attire.** Nurses should wear gloves for all direct contact with blood and body fluids (Figure 10). When gloves are not available, other methods should be used to prevent direct contact with blood, such as forceps, a towel, or gauze. If these are unavailable, even a leaf may be used to hold a bloodstained needle or syringe. If gloves are not disposable, they should be changed, washed, and disinfected or sterilized after contact with each patient. When cleaning sharp instruments, extra-heavy-duty gloves are recommended and the instruments should be handled with extreme care.

During procedures in which there may be splashing, aerosolization, or copious amounts of blood (such as during surgery or childbirth), the eyes, nose and mouth should be protected with a face shield or mask and glasses, and gowns or aprons should be worn.

**Needle-stick and other sharp injuries.** Methods should be devised to reduce the risk of needle-stick and other injuries from sharp instruments, which should always be handled with extreme care. The handling of anything sharp should be reduced to a minimum. To prevent needle-stick injuries, needles should NOT be recapped, bent, broken, removed from disposable syringes, or otherwise manipulated by hand. After use, needles and other sharp instruments should be placed in puncture-proof containers, located as close as possible to where they are to be used, and then handled as infected material (Figure 10).

**Mouth-to-mouth resuscitation.** Although HIV has been recovered from saliva, there is no conclusive evidence that saliva is involved in HIV transmission. Nevertheless, to reduce occupational exposure to HIV, mouthpieces, resuscitation

**Figure 10. Some precautionary measures in infection control**



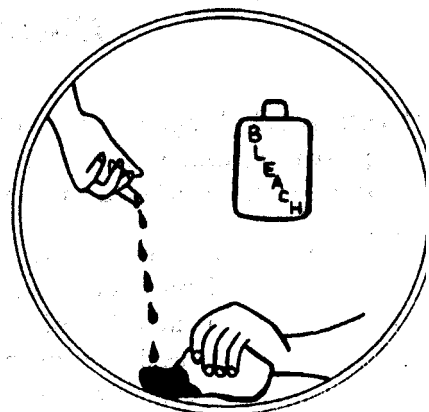
**Wear clean gloves when handling body fluids.**



**Dispose of contaminated needles and syringes in a puncture-resistant container.**



**Wash hands before and after patient contact.**



**Disinfect spills of blood and body fluids with bleach.**

bags or other ventilation devices should be used if available, when resuscitation is necessary. Resuscitation equipment should be used once only and discarded, or be thoroughly cleansed and disinfected. Mouth-to-mouth mucous extractors should be replaced, if possible, by electrical hand-operated or foot-operated suction machines.

**Isolation.** If the precautions described above are taken, isolation of HIV-infected patients is not necessary unless they have other infections for which isolation is indicated.

**Isolate the infection, not the patient.**

### ***Precautions in relation to injections and skin piercing***

Injections and other procedures in which the skin or mucous membranes are pierced for preventive, diagnostic, cosmetic or therapeutic purposes play an important role in both traditional and modern care.

- It is important to restrict injections and other skin-piercing procedures to situations in which the indications are clearly and appropriately defined. In many situations, drugs are given by injection when they would be equally effective given orally. Reducing the number of unnecessary injections is therefore important in protecting both the patient and the health worker.

- To avoid person-to-person transmission of HIV, single-use (disposable) instruments should be used once only. To prevent reuse, they should then be destroyed under careful supervision. Multiple-use (reusable) instruments should always be washed and appropriately sterilized (or disinfected) according to existing guidelines. Chemical disinfection must not be used for needles and syringes. If these procedures are always strictly observed, the risk of transmission of HIV through injections and other skin-piercing procedures can be eliminated.

**Prevent transmission of HIV - use one sterile needle and one sterile syringe per injection.**

### ***Precautions in relation to laboratory specimens***

Nurses should always wear gloves when handling and processing specimens of blood and other body fluids (such as in taking and collecting blood).

When nurses are likely to be in contact with body fluids, all open wounds on hands and anus should be covered with a water-tight dressing. Hands should always be washed with water and soap immediately after exposure to specimens.

Specimens should be placed in containers with a secure lid to prevent leakage during transport. Care should be taken to avoid contamination of the outside of the container. When samples are mailed or otherwise shipped, they should be double bagged and placed inside unbreakable plastic containers.

Working surfaces should be covered with a non-penetrative material which is easy to clean thoroughly, such as plastic film. Any spillage of blood or other body fluids should be decontaminated with a disinfectant such as sodium hypochlorite 0.5% immediately before cleaning.

Specimens should be carefully disposed of by pouring them down a drain connected to a sewer. If this is not possible, blood and body fluids should be decontaminated with an appropriate disinfectant such as sodium hypochlorite 0.5% before disposal. Preferably gloves should be worn during disposal.

**Hands must be carefully washed after laboratory activities.**

### ***Precautions in relation to invasive procedures***

An invasive procedure may be defined as a surgical entry into tissues, cavities or organs, whether for an operation or for the repair of injury. Strict blood and body fluid precautions should be observed. In addition:

- Gloves and a surgical mask should be worn for all invasive procedures.
- Protective glasses or face shield should be worn for procedures which may result in the generation of droplets or the splashing of blood or other body fluids-
- A gown or apron should be worn if blood splashes are likely.



- Nurses who perform or assist in vaginal or caesarean deliveries should wear gloves and a gown or apron when handling the placenta, when cleaning the blood from the infant's skin, and until post-delivery care of the umbilical cord is complete.
- If a glove is torn or a needle-stick or other injury occurs, the glove should be changed and the hands washed carefully as soon as the safety of the patient permits. The needle or instrument involved in the accident should be removed from the sterile field.

### ***Other precautions***

**Laundry.** Soiled linen should be bagged where used and not sorted or rinsed in patient care areas. Linen soiled with blood or other body fluids should be placed and transported in leakproof bags. If leakproof bags are not available, the linen should be folded with the soiled parts inside. When handling soiled linen, gloves and a protective apron should be worn.

Linen should be washed with detergent and water at a temperature of at least 71 centigrade (160 fahrenheit) for 25 minutes. If low-temperature laundry cycles are used (less than 70 centigrade = 158 fahrenheit), chemicals suitable for low-temperature washing should be used at the appropriate concentration as recommended by the manufacturer.

**Spills of blood and other body fluids.** For visible spills of blood or other body fluids, the area should first be flooded with an appropriate disinfectant (preferably sodium hypochlorite, 0.1% -0.5% available chlorine). The mixed body fluid and disinfectant should then be removed, and the surface wiped with disinfectant.

**Postmortem procedures. Last offices/Care of the body.** When nurses are performing postmortem procedures, last offices or giving last care to the body, they should follow the precautions outlined above and use the standard guidelines for the health care setting involved.

**Disposal of infected wastes.** Needles and other sharp instruments or materials should be placed in a puncture-proof container immediately after use and should preferably be incinerated.

Liquid wastes such as bulk blood, suction fluids, excretions and secretions should be carefully poured down a drain connected to an adequately treated sewer system, or disposed of in a pit latrine.

Solid wastes, such as dressings and laboratory and pathology wastes, should be considered infectious and treated by incineration, burning or autoclaving. Other solid wastes, such as excreta, may be disposed of in a hygienically controlled sanitary landfill or pit latrine.

Solid waste materials in the home (dressings, diapers, menstrual pads) should be considered infectious. Preferably they should be burned. If this is not possible, they should be deposited in a domestic or public hygienically controlled sanitary landfill or pit latrine.

### ***Guidelines for the safety of nurses***

**The risk of acquiring HIV from infected patients is extremely low.**

In the exceptionally rare instances where nurses have acquired HIV infection in their work, the route of infection has been either parenteral or through exposure of mucous membranes or skin lesions to HIV-infected blood.

Parenteral exposure occurs when a nurse sustains a needle-stick injury or a cut from a scalpel or other sharp instrument contaminated with blood from an infected patient. The risk of infection after such exposure is likely to depend on two factors: (1) the volume of blood to which the nurse was exposed, and (2) the infectiousness of the patient. Although HIV can be present in both asymptomatic and symptomatic persons, recent studies suggest that persons with symptomatic AIDS or at an advanced stage of HIV infection are likely to be more infectious. Several prospective studies have reported that the risk of acquiring HIV infection after a needle-stick injury or other parenteral exposure to HIV is less than 1%.

The risk of acquiring HIV infection after mucous membrane or skin lesion exposure to infected blood is very low, but more difficult to quantify. Individual case reports, however, indicate that a risk does exist when nurses are contaminated with HIV - infected blood through open cuts, abrasions or mucous membranes (such as mouth or lips, conjunctiva).

**Parenteral or mucous membrane exposure to HIV.** Exposure may be through:

- parenteral exposure to blood and other body fluids (such as needle-stick injury or cut);
- mucous membrane exposure to blood and other body fluids (such as blood splashes to the eyes and mouth);
- cutaneous exposure involving large amounts of blood when the nurse's skin is chapped, has abrasions, or is affected with dermatitis .

### **Special conditions**

- Nurses with open skin lesions should cover the lesion with a waterproof dressing or gloves to prevent direct exposure to blood and other body fluids. To protect patients, nurses who have draining skin lesions should not take part in direct patient care and should not handle equipment for patient care.

- Nurses providing HIV-infected persons with home care are at the same low risk of infection as nurses in hospitals and other health care settings. Most infected persons who do not need hospitalization can safely be cared for at home. The precautions outlined above should be observed.
- Since HIV infection in a pregnant nurse carries the additional risk of subsequent perinatal transmission, pregnant nurses should strictly observe the precautions.
- In general, an HIV - infected nurse does not pose a risk to patients and restrictions in work are not necessary.
- An infected nurse's personal doctor should advise on precautions or restrictions to protect patients and on whether the patients pose a risk to the nurse and, if so, suggest changes in work assignment.

For more details, see Guidelines on sterilization and high-level disinfection methods effective against human immunodeficiency virus (HIV), published by the World Health Organization (WHO AIDS Series, No.2).

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## **11. CAREGIVER CONCERNS**

Caring for persons with AIDS can be extremely demanding. This disease has the potential for having devastating effects on individuals, families and communities as a result of the high mortality rate and fear of contagion. Some of the patients may be physically and emotionally difficult to care for owing to neurological changes and physical disability.

The health worker may have to care for patients of the same age or background as himself/herself and will realize that this disease can afflict anyone. Other stress-producing issues for the nurse may be the sexual and moral aspects of disease transmission. All of these factors can make the disease an overwhelming experience for the health care worker.

The ease with which nurses will be able to cope personally will depend on more than their own individual strengths. It will also depend on the support received from other professionals. Without this support, the task may simply be overwhelming for many.

An important factor in understanding fear and putting it into perspective is to keep oneself informed about HIV. Misinformation may circulate, some of which is written for the popular press by those perceived as experts. Even when a nurse has access to accurate information and feels relaxed in caring for HIV - infected persons, he/she may begin to have fears and anxiety. Some of this is to be expected, and may be compounded by the emotional and physical fatigue required to care for patients who may be angry, fearful or overwhelmed themselves.

Gaining insight into rational and irrational fears can help the nurse to refocus thinking on what is known about the disease and its risks. For example, research conducted in the United States has shown that the risk of infection (positive seroconversion) after exposure to HIV-infected blood from a needlestick injury is less than 1%. When barrier precautions (such as gloves) are also taken, the nurse is protected to an even greater extent.

Sometimes, knowing the facts is not enough. Another coping mechanism for the nurse is support from other staff on a formal basis, such as through group meetings or counselling. In institutions or hospital units which care for many patients with AIDS, this support can be provided by the organization.

On an informal basis, recreation with co-workers can help to boost morale and foster a team approach to care. Maintaining activities, hobbies and interests outside work is important and can provide for diversion, relaxation and replenishing. Attending to the caregiver's needs can also result in improved quality of care for the patient.

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