Chapter 4—Primary and Secondary HIV Prevention

Primary HIV prevention reduces the incidence of transmission (e.g., fewer people become HIV infected), whereas secondary HIV prevention reduces the prevalence and severity of the disease through early detection and prompt intervention (e.g., fewer HIV-positive people progress to AIDS). For HIV-infected clients in substance abuse treatment, a comprehensive approach to HIV prevention must include three goals: (1) living substance free and sober, (2) slowing or halting the progression of HIV/AIDS, and (3) reducing HIV risk taking.

This third goal is crucial for the client in several ways:

- Different individuals may be infected with different strains of HIV. Because HIV mutates frequently, an individual can be infected with treatment-resistant forms of the virus. The possibility exists that treatment-resistant forms of the virus can be spread even to individuals who are already infected with HIV, and, if this is the case, further treatment options could be reduced. (See Chapter 3 for more information about resistance.)

- Behaviors that put an individual at risk for HIV will also put him at risk for other infections, such as hepatitis B or C, which can complicate treatment of HIV/AIDS.

- Clients do not want to transmit HIV to the people who are close to them.

In addition to the ways in which HIV prevention efforts directly help the client, the benefit to family and community is obvious. HIV prevention for those already infected is a key component of treatment for both the client and community.

Substance abuse treatment personnel may be among the few people the recovering abuser trusts. By taking the opportunity to advise each client on HIV risk reduction, whether that client is known to be HIV infected or not, the substance abuse treatment professional assists both the individual and all those connected to him. HIV has been spreading rapidly among substance abusers since the start of the pandemic but can be slowed if they are taught the skills to prevent transmission.

Risk reduction originally was called "harm-reduction counseling" by its creator, Edith Springer, in the late 1980s and was popularized by pioneering syringe exchange advocates David Purchase and Dan Bigg in the early 1990s. The term "harm reduction" was first associated with the approach of identifying and supporting "any positive change" by substance abusers toward less frequent substance use or abstinence. In this respect, the harm-reduction approach endorsed the social work adage of "meeting the client where he is."

In the mid-1990s, the term "harm reduction" was unfortunately associated with a brief and unsuccessful drug legalization/decriminalization movement. In an effort to distinguish the more specific service provision response from the larger, disparate political movement, advocates renamed the approach "risk reduction." The concept of risk reduction was further expanded to include both substance-related and sex behavior-related risks for HIV infection. Risk-reduction interventions have included media campaigns (Bortolotti et al., 1988; Power et al., 1988), syringe exchange programs (Des Jarlais et al., 1996; Watters et al., 1994), and substance abuse treatment (Ball et al., 1988; Booth et al., 1998; Hartgers et al., 1992; Iguchi et al., 1996).

HIV/AIDS Risk Assessment

Numerous risk assessment protocols exist and may be used with a minimum of training and familiarity (Chen et al., 1998). The goal of HIV/AIDS risk assessment should be to identify behaviors that place the client at risk for HIV infection. Figure 4-1 contains a brief HIV/AIDS risk assessment checklist that has been used successfully with a wide variety of populations at risk.

Sexual Practices Assessment

A comprehensive sexual practices history is important and should be taken early in counseling, although not necessarily at the first session. Clients must be reassured of the confidentiality of the information they provide. Counselors should address the full range of potential risk behaviors in their questioning, including both syringe
sharing and unsafe sex. They should take into account a wide range of sexual practices, including homosexual, bisexual, and heterosexual, as well as those of transgender clients. Condom use must be a special focus of counseling. The power issues over use/nonuse of condoms that can often occur in sexual relationships should be discussed as well.

After taking the client's history, the counselor can often proceed to HIV/AIDS education and then to risk reduction. A client who was diagnosed with HIV before seeing the counselor may already have discussed sensitive issues and risk reduction with someone else. Nonetheless, it is important that the substance abuse treatment counselor discuss these issues with the client as well.

**Risk-Reduction Counseling**

Changing risk behaviors such as substance abuse and unsafe sex requires more than a knowledge of why these are risky. Clients' attitudes and beliefs also must be addressed, as well as the beliefs and attitudes of their sexual partners. Substance abuse can lower inhibitions and increase impulsiveness, which may significantly contribute to risk behaviors.

In promoting risk reduction, the alcohol and drug counselor's goals are to

- Help the client understand the need for behavior change
- Provide psychological support for behavior change
- Assist the client in developing the appropriate skills to sustain the behavior change

Discussion of risk behaviors should take place in language that is culturally appropriate, clear, and understandable. Substance abuse treatment providers should know how to refer family members for HIV antibody testing and how to provide appropriate pre- and posttest counseling to clients. If onsite testing is not possible, referral should be available to an easily accessible site.

Risk-reduction counseling can be particularly difficult when a client is sent back to a nonsupportive community where high-risk substance abuse and sexual behaviors are not discouraged. Issues such as poverty and homelessness must be acknowledged and addressed when attempting to change high-risk behavior, and counseling should be provided for personal problems such as perceived powerlessness and low self-esteem. Practical assistance, such as providing emergency housing, is usually required before behavior change can occur.

**Risk Reduction and Women**

Encouraging risk-reduction practices in women can sometimes be problematic for treatment providers. HIV-infected women in substance abuse treatment are likely to be poorly educated about their sexual and reproductive health, financially dependent on a man, and consequently reluctant to challenge the status quo. A recent study examined the relationship between partner violence and sexual risk behaviors in a sample of predominantly Hispano/Latino and African American women. Nearly one half of participants reported having been abused by a partner or spouse in the past. It was discovered that abused women were five times more likely than unabused women to have reported a sexually transmitted disease (STD) and four times more likely to have engaged in sex with a risky sexual partner (El-Bassel et al., 1998).

**Brief Intervention**

One promising means of promoting risk reduction as well as treatment entry is known broadly as brief intervention. Brief interventions are a large class of interventions, all of which involve the use of approximately three sessions of assessment and motivational counseling intended to diminish substance abuse or promote treatment entry (Heather, 1995). Most brief intervention studies have focused on alcohol and nicotine use, but brief interventions are also effective for drug treatment programs (Miller, 1993; Schuster and Silverman, 1993). (For more information, see TIP 34, Brief Interventions and Brief Therapies for Substance Abuse [CSAT, 1999c], and TIP 35, Enhancing Motivation for Change in Substance Abuse Treatment [CSAT, 1999d].)

**Sexual Risk Reduction**

Sexual risk reduction is best approached in a stepwise manner. The greatest protection (and best step) is either to have one monogamous, HIV-negative partner or to abstain from sex. The next best step is to always use a latex condom if one is having sex with more than one partner, with a partner who is HIV positive, or with a partner who may not be monogamous. Male condoms are effective when used correctly, but female condoms, while showing some promise in preventing STDs, have not yet been scientifically established as effective in preventing transmission of HIV.
A condom can be cut open and used like a sheet for oral intercourse. Plastic kitchen wrap can also be used, except for the microwave type, which has tiny holes in it. Anal intercourse is safer if two condoms are used, and spermicides containing nonoxynol-9 appear to give additional protection. Only water-based lubricants (such as K-Y Jelly or Surgilube) should be used because oil-based lubricants (such as petroleum jelly or vegetable oil) can cause a condom to deteriorate enough to allow HIV to pass through.

Providers should also remind clients that contraceptives such as Norplant and the birth control pill provide effective birth control when used correctly but provide no protection against HIV transmission. Clients should use condoms to protect themselves and others from HIV in addition to whatever birth control devices they may be using.

Another way to reduce risk is to avoid activities that cause trauma or bleeding (however, if clients engage in these activities, a latex condom should be used). Instances of trauma can include not only obvious bleeding but also microscopic abrasions produced by excessive teeth brushing just before oral sex, which could cause the gums to bleed. Anything that touches cut or irritated body tissue should be sterile, if possible. To date, there are no known cases of HIV transmission through kissing, but if both partners have cut or irritated areas on the lips or in the mouth, it is technically possible for the virus to be transmitted.

HIV sexual risk-reduction programs should be integrated into substance abuse treatment programs. Stall and colleagues found that among men who have sex with men in substance abuse treatment, substantial HIV risk reductions occurred after initiation of treatment but that lapses into unsafe sex were common during treatment (Stall et al., 1999). HIV sexual risk (e.g., unprotected anal sex) was most likely to occur among men who were riskier at intake, who continued to be more sexually active, and who were more likely to combine substance abuse and sexual behavior (Stall et al., 1999).

Paul and project staff from the New Village Program in San Francisco have developed an HIV sexual risk-reduction program for substance abusers, especially for gay men (Paul, 1991a). Components of the "Clean and Sober and Safe" program may be useful to substance abuse treatment staff in general. Its group-format design allows it to be easily incorporated into group treatment settings to help substance abusers deal more effectively with situations that could lead to HIV risk. The format of the program incorporates many of the group principles used in substance abuse treatment settings, such as self-monitoring techniques, relapse prevention, building coping strategies, enhancing perceived self-efficacy, and developing necessary social support structures.

In general, Paul and colleagues recommend that the focus of these groups should be on "identifying high-risk situations for relapse into substance abuse and unsafe sex" and developing relapse prevention strategies to maintain abstinence and safer sex (Paul, 1991a). The same skills that clients learn when dealing with high-risk alcohol and drug situations can be adapted for situations that present high risk for unsafe sex. Group members should be encouraged to talk about sex and relationship issues, as well as the intersection of these issues with alcohol and drug use. Discussions should occur within a "sex-positive" framework, in which sex is viewed as healthy and natural.

Adapted from the sexual risk-reduction program developed by Paul and colleagues, Figure 4-2 contains a topic outline that can be used in substance abuse treatment settings to reduce HIV sexual risk among HIV-infected persons (Paul, 1991a).

Sexual risk-reduction programs should provide clients with basic information about safer sex, as well as an array of alternative strategies and choices that are client controlled. For example, a client who engages in unprotected anal intercourse should be encouraged to reduce risk by either using a condom or switching to oral intercourse. Or a client who engages in unprotected oral sex might reduce risk by using a condom or switching to mutual masturbation. Such self-protection strategies should be encouraged and explored throughout the risk-reduction sessions.

**Syringe-Sharing Risk Reduction**

Risk reduction for injection drug use (IDU) is best approached strategically; for example, abstinence is the best step, no syringe use is the second best step, not sharing syringes is the third best step, using only clean syringes is the fourth best step, and so on. Successful drug treatment optimally will stop IDU and HIV risk. However, if abstinence is not working, the next best method is never to share IDU equipment with others and always to use clean equipment (including cookers, filters, water, and syringes). Some areas offer syringe exchange programs (SEP) to assist in this effort, but if absolutely necessary a used syringe can be bleached (see Figure 4-3 for instructions on this). Another risk-reduction practice is not to allow others to contaminate drugs or equipment by putting a contaminated syringe into the prepared drug.
Syringe exchange programs

Under the terms of the Departments of Labor, Health and Human Services DHHS), and Education, and the Related Agencies Appropriations Act, 1998, (42 U.S.C. §§300ee(300ff), Federal funds to support SEPs are conditioned on a determination by the DHHS Secretary that such programs reduce transmission of HIV and do not encourage use of illegal drugs.

In a 1997 report to Congress, the DHHS Secretary reported that a review of scientific research findings indicated that SEPs were an effective component of a comprehensive strategy to prevent HIV and other blood-borne infectious diseases in communities that included SEPs in their HIV prevention strategy. The Secretary also announced that research findings indicated that SEPs do not encourage use of illegal drugs (U.S. Department of Health and Human Services, 1998). To date, the restriction on Federal funding has not been lifted.

DHHS has decided that the best course at this time is to have local communities that choose to implement their own programs use their own money to fund SEPs and to communicate available research results on the subject so that communities can construct the most successful programs possible to reduce transmission of HIV, while not encouraging illegal drug use (U.S. Department of Health and Human Services, 1998).

Three major expert reviews of the scientific literature on SEPs conclude that such programs can provide a pathway for linking injection drug users to other important services such as HIV risk-reduction counseling, substance abuse treatment, and support services (Lurie et al., 1994; Normand et al., 1995; U.S. General Accounting Office, 1993). Other studies strengthen the conclusion that SEPs do not encourage the use of illegal drugs (Brooner et al., 1998; National Institutes of Health, 1997a, b).

Prenatal and Perinatal HIV Prevention

A particularly important point at which to address HIV prevention is during pregnancy. From July 1997 to June 1998, women accounted for 22 percent of AIDS cases; of those, 30 percent were infected through substance abuse and 37 percent through heterosexual contact (CDC, 1998b). It is estimated that between 6,000 and 7,000 HIV-infected women give birth each year (Stoto et al., 1998). Without any treatment, the risk of an HIV-infected woman passing the infection to her child is between one chance in three and one in four. A child's chances of being infected during pregnancy and childbirth drops to less than 1 chance in 10 when the mother receives proper prenatal care and treatment (CDC, 1994).

In addition to preventing HIV transmission, prenatal care and treatment of the HIV-infected woman will help her maintain her own health. Current recommendations are that a woman receive optimal HIV/AIDS treatment for herself during pregnancy (CDC, 1995). If a woman becomes pregnant and does not know whether she is infected with HIV, it is crucial that she be tested for HIV. Alcohol and drug counselors can help clients enter into prenatal care, be tested for HIV if they have not yet done so, and can encourage them to follow medical recommendations.

Zidovudine (AZT) (Retrovir)

Data indicate that AZT therapy has a key role in preventing perinatal transmission of HIV from mothers to infants. The Pediatric AIDS Clinical Trials Group Protocol 076, a multicenter, randomized, double-blind, placebo-controlled trial conducted by the National Institutes of Health AIDS Clinical Trials Group, found that only 8 percent of infants born to HIV-infected women treated with AZT were infected with HIV, compared with 26 percent of infants born to women treated with a placebo (CDC, 1994). A recent study evaluated the long-term effects of in utero exposure to AZT in 234 uninfected children who were born to women enrolled in the Protocol 076 program (Culnane et al., 1999). No adverse effects were observed in these children, who were followed for as long as 5.6 years, and the researchers advised further evaluations of children who were exposed to antiretroviral agents in utero or neonatally. At San Francisco General Hospital's program for pregnant women, there has not been an HIV-positive infant born in more than 2 years to mothers on Protocol 076.

Clinical experience with AZT has not revealed any fetal toxicity other than transient anemia, although theoretical risks remain. However, the benefits seem to outweigh the unproven risks. The Centers for Disease Control and Prevention (CDC) now recommend that pregnant HIV-infected women receive AZT therapy. More recent clinical trial data from Thailand using a simpler regimen (600 mg orally daily from 36 weeks' gestation to labor, then 300 mg every 3 hours until delivery) produced a 51 percent decrease in HIV transmission risk (Shaffer et al., 1999). Given the large number of childbearing women among clients in substance abuse treatment programs, these data indicate an immediate need for expanded HIV/AIDS counseling, testing, and education for women who are pregnant or likely to become so. Although antiretroviral combination therapy is more potent than AZT monotherapy, it is not necessarily more effective in preventing mother-to-infant HIV transmission. In some subgroups, viral load is closely associated with transmission risk, lending support to the move toward combination treatment.
therapy. Studies of prototypic triple-therapy protocols for safety and tolerance have just begun.

**Breast-feeding**

Breast milk transmits HIV efficiently, which is one reason why so many children in developing countries are HIV positive. Breast-feeding is therefore contraindicated for HIV-positive women.

Neonatal HIV transmission through breast-feeding remains a problem, especially in countries where safe and affordable alternatives to breast milk are not available and antenatal HIV prevalence tends to be highest. The rate of acquisition of HIV through breast-feeding was 7.4 percent in a study of infants who had a negative virus test in the first 3 months of life and was 7.4 percent in one study and 9.6 percent in another study at 24 months. Oral AZT prophylaxis during pregnancy may produce children more at risk for acquiring HIV through breast-feeding. Also, it is possible that viral load rebounds in mothers after they stop taking AZT, which results in increased virus concentration in breast milk.

The World Health Organization (WHO) issued a recommendation that women with HIV should not breast-feed (World Health Organization, 1998). The report recognized, however, that in some cultures women are stigmatized for failure to breast-feed and that in underdeveloped countries, breast-feeding may be the only way in which an infant can survive the first few months of life. This is a complex and delicate issue.

**Cesarean delivery**

Various studies that recently compared transmission rates between vaginal delivery and cesarean section demonstrate that elective cesarean section reduces the risk of vertical transmission of HIV from mother to child (European Mode of Delivery Collaboration, 1999). Elective cesarean sections were defined as those performed before onset of labor and rupture of membranes. According to a meta-analytic review of 15 research studies, after adjustment for factors such as receipt of antiretroviral therapy, maternal stage of disease, and infant birth weight, the risk of vertical transmission was decreased by roughly 50 percent with elective cesarean section (International Perinatal HIV Group, 1999).

**Transmission of Resistant HIV**

Transmission of forms of HIV that are resistant to one or another of the cluster of antiretroviral medications has already been well documented. However, whether it is possible to sexually transmit forms of HIV that are resistant to triple combination therapy remained an open question until recently; genetic analysis demonstrated the transmission of triple-combination resistant virus between a serodiscordant gay male couple (one HIV positive and one HIV negative) (Hecht et al., 1998b).

The implications of this finding are serious. Given the cross-resistance problems of many protease inhibitors, individuals newly infected with triple-combination-resistant forms of HIV may have few antiretroviral treatment options available to them. If it is possible to efficiently transmit triple-combination-resistant HIV during unprotected sexual encounters, it follows that certain at-risk populations may return to the situation that existed before protease inhibitor treatments became available. Thus, primary and secondary AIDS prevention may turn out to be as important as the discovery of triple-combination treatment therapies themselves.

**Infection Control Issues For Substance Abuse Treatment Programs**

The AIDS pandemic poses a number of challenges for infection control policy and practice in substance abuse treatment programs. Effective institutional infection control is more relevant for preventing the transmission of tuberculosis than for preventing the spread of HIV, although the latter often has received a greater amount of attention.

**Universal Precautions**

Adherence to universal precautions for exposure to blood and bodily fluids--as recommended by the CDC, the National Institute of Occupational Safety and Health, and several other organizations--has been well established as the necessary standard of practice for all settings in which exposure to bodily fluids is a potential hazard. Substance abuse treatment programs should apply the same universal precautions that are in place in hospitals and other health care facilities (CDC, 1987b) (see Figure 4-4). Prompt referral of substance abuse treatment staff members who have been exposed to contaminated blood and bodily fluids is critical because antiviral therapy can be initiated within hours of exposure to reduce dramatically the risk of transmission.

Programs should seek guidance from local public health authorities or infection control staff of an affiliated institution on adhering to universal precautions. In settings such as freestanding community-based treatment programs...
programs, safe disposal of infectious waste may require a deviation from standard waste disposal practices.

Postexposure Prophylaxis
The best way to reduce the risk of occupational HIV transmission is to prevent exposures. However, exposures occasionally occur, so every clinic should have a plan for postexposure prophylaxis (PEP). One consideration in postexposure management is to administer antiretroviral medications. The use of AZT as a PEP has been shown to be safe and associated with decreased risk for HIV infection (CDC, 1998e). Newer antiretroviral medications may be effective, but there is less experience with their use as PEP. The key to PEP is to initiate therapy immediately after the exposure. Some agencies keep PEP medications onsite so that they can administer them quickly if an exposure occurs. The San Francisco Department of Public Health is making combination therapy available to people who believe they have had an HIV exposure (within 72 hours). It must be noted, however, that because of side effects, very few individuals who attempt to follow the PEP regimen are able to stay on it for 30 days.

Rapid HIV Testing
Rapid HIV tests are becoming more available, and these tests will change how and when HIV prevention counseling is delivered. Clinical studies have shown that the sensitivity and specificity of rapid HIV tests are comparable to those of the enzyme immunoassays currently used. Because these tests can provide results in hours instead of days, counseling could increase from one session per client (risk assessment) to two sessions (risk assessment accompanied by test results) per client in a single day.

Counselors must understand the technical aspects of these screening tests and be able to assess each client’s likelihood of being infected. Reactive rapid tests must still be confirmed by a supplemental test (either Western blot or immunofluorescence assay).

The CDC recommends that counseling before using rapid HIV tests should
- Ensure that the client is aware that rapid testing is being used and that he can receive test results during this visit.
- Include an explanation of a reactive screening test result and a statement about the necessity of waiting 1 to 2 weeks for the results of a confirmation test.
- Help the client identify the behaviors that place her at risk for HIV.
- Be used as an opportunity to help the client develop a realistic and incremental plan for reducing risk, regardless of her HIV test result (CDC, 1998h).

Several new, rapid HIV tests currently in use outside of the United States may soon be submitted for approval by the Food and Drug Administration. Many of these new tests require only a single step. When these tests become available, clinicians will have more options for delivering HIV testing and prevention counseling services.
Boxes

Figure 4-1: HIV/AIDS Risk Assessment Checklist

Within the past 3 to 6 months, have you
- Participated in unprotected vaginal intercourse?
- Participated in unprotected anal intercourse?
- Participated in unprotected oral sex?
- Had unprotected sex in exchange for money?
- Had unprotected sex in exchange for drugs?
- Had unprotected sex with more than three partners?
- Had unprotected sex with someone you think was an injection drug user?
- Had unprotected sex with someone you think was HIV infected?
- Had unprotected sex with someone you think had AIDS?

When you have sex
- Do you or your partner use condoms: ______ sometimes or ______ never?
- Do you use drugs before you have sex?
- Do you use drugs after you have sex?

When you use drugs
- Do you use syringes?
- Do you share syringes?
- Do you clean your works?
- Do you use crack cocaine or powder cocaine?
- Do you use several drugs at the same time?

Positive answers for half or more of the questions should indicate that the person is at high risk for HIV infection if current practices continue.

Figure 4-2: Sexual Risk-Reduction Topics

1. Identifying high-risk situations for substance abuse relapse
2. Identifying high-risk situations for unsafe sex (e.g., potential for having unsafe sex when high or when clean and sober)
3. Introducing relapse prevention planning (e.g., situation when relapse occurs, "slippery" situations, problem solving, and planning)
4. Identifying riskiness of current sexual patterns
5. Teaching basic condom skills
6. Bringing up condoms with sexual partners (e.g., talking about condoms, role playing, identifying issues in talking about safer sex)
7. Choosing sexual partners (e.g., finding new partners, personal ads)
8. Taking steps to meet new people
9. Exploring the impact of AIDS on the community (e g., "taking it 1 day at a time with HIV")
10. Reviewing skills
11. Building a social support system in recovery (e.g., getting support for safer sex)  
12. Practicing social skills in sobriety  


Figure 4-3: Use of Bleach for Disinfection of Drug Injection Equipment

On April 19, 1993, the Centers for Disease Control and Prevention (CDC), the Center for Substance Abuse Treatment, and the National Institute on Drug Abuse issued a joint bulletin updating recommendations to prevent HIV transmission through the use of bleach to disinfect drug injection equipment. The bulletin particularly addresses persons who cannot or will not stop injecting drugs. This bulletin states that:

1. Bleach disinfection of needles and syringes continues to play an important role in reducing the risk of HIV transmission for injection drug users who reuse or share them.
2. Sterile, never-used needles and syringes are safer than bleach-disinfected, previously used needles and syringes.

The bulletin contains provision recommendations for the use of bleach to disinfect needles and syringes (including the recommendation for using full-strength household bleach). CDC recommendations for disinfecting environmental surfaces contaminated with blood are unchanged.

Provisional Recommendations

There is currently insufficient laboratory and behavioral research to make definitive recommendations on the best procedures for bleach disinfection. However, the following steps will enhance the effectiveness of bleach disinfection of needles and syringes:

- Cleaning should be done twice-once immediately after use and again just before reuse of needles and syringes.
- Before using bleach, wash out the needle and syringe by filling them several times with clean water. (This will reduce the amount of blood and other debris in the syringe. Blood reduces the effectiveness of bleach.)
- Use full-strength liquid household bleach (not diluted bleach).
- Completely fill the needle and syringe with bleach several times. (Some suggest filling the syringe at least three times.)
- The longer the syringe is completely full of bleach, the more likely HIV will be inactivated. (Some suggest the syringe should be full of bleach for at least 30 seconds.)
- After using bleach, rinse the syringe and needle by filling several times with clean water. Don't reuse water used for initial prebleach washing; it may be contaminated.
- For every filling of the needle and syringe with prebleach wash water, bleach, and rinse water, fill the syringe to the top.
- Shaking and tapping the syringe are recommended when the syringe is filled with pre-bleach wash water, bleach, and rinse water. Shaking the syringe should improve the effectiveness of all steps.
- Taking the syringe apart (removing the plunger) may improve the cleaning/disinfection of parts (e.g., behind the plunger) that might not be reached by solutions in the syringe.

Staff of HIV prevention programs should review how the use of bleach is currently taught and promoted and how injection drug users are using bleach. The principles of bleach disinfection just described should be incorporated into guidance provided to them. Program staff, outreach staff, and drug users should work together to develop easily understood messages to communicate these steps.

Source: CDC et al., 1993.

Figure 4-4: Universal Precautions for Substance Abuse Treatment Programs Treating HIV-Infected Clients
Transmission of HIV is highly unlikely within institutions such as health care facilities, residential facilities, correctional facilities, residences, and substance abuse treatment programs when universal precautions are observed.

Because medical history and examination cannot reliably identify all HIV-infected patients, universal precautions should be used consistently with all patients.

1. Barrier Precautions

In any setting in which workers may come into contact with a patient's blood or bodily fluids, the following precautions should always be observed:

- Gloves should be worn when touching blood or bodily fluids, mucous membranes, or nonintact skin; handling items or surfaces soiled with blood or bodily fluids; or performing vascular access procedures such as venipuncture (inserting a syringe into a vein to draw blood or administer fluids).
- Gloves should be changed after each patient contact.
- Masks and protective eyewear should be worn during any procedure likely to expose mucous membranes of the mouth, nose, and eyes to droplets of blood or other bodily fluids.
- Gowns or aprons should be worn during procedures likely to generate splashes of blood or other bodily fluids.
- Hands and other skin surfaces should be washed immediately and thoroughly when contaminated with blood or other bodily fluids and whenever gloves are removed.

2. Use of Sharp Instruments

The following precautions should be taken to prevent injuries when using, cleaning, disposing of, or otherwise handling syringes, scalpels, and other sharp instruments:

- Do not recap syringes, bend or break them by hand, remove needles from disposable syringes, or otherwise handle them.
- Place disposable "sharps" in puncture-resistant disposal containers immediately after use.
- Place large-bore reusable syringes in puncture-resistant containers for reprocessing.

3. Other Precautions

- Ventilation devices such as mouthpieces and resuscitation bags should be available for use in areas where the need for resuscitation is predictable.
- Workers with exudative (oozing) lesions or weeping dermatitis should refrain from all direct patient care and from handling patient care equipment until their condition resolves.
- Pregnant workers should be especially familiar with, and should strictly adhere to, all of the above precautions.

Source: CDC, 1987b.

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