

MODULE 3

FLORIDA DEPARTMENT OF HEALTH

STUDY GUIDE

HIV/AIDS: 101

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OCCUPATIONAL EXPOSURE: CONSIDERATIONS FOR PERSONS IN THE HEALTHCARE FIELD

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Healthcare workers who have contact with blood or other potentially infectious materials (OPIM) may have occupational exposure to HIV or other blood-borne pathogens, primarily hepatitis B and hepatitis C.

The risk is higher with one or more of the following factors:

- Exposure to blood from a terminally-ill AIDS patient
- Exposure caused by a needle which was used in a blood vessel
- Exposure caused by a visibly bloody device
- A deep puncture

Occupational exposures should be considered an urgent medical concern to ensure timely post-exposure management and administration of HBIG (hepatitis B immunoglobulin) and/or HIV PEP (post-exposure prophylaxis).

All healthcare personnel should be familiar with their facility's exposure control plan as well as infection control precautions (routine use of barriers, for example – gloves and/or goggles – when anticipating contact with blood or body fluids, washing hands or other skin surfaces immediately after contact with blood or body fluids, and are handling and disposal of sharp instruments during and after use.

In Florida, the risk of infection from a needle stick with HIV-infected blood is about 1 in 350; while the risk of HIV infection through mucous membranes is less than 1 in 1,000. As a result of these occupational risks, all healthcare workers are required to undergo training in basic infection control measures. Refer to Florida Statutes 381.0035 educational course on HIV and AIDS; employees and clients of certain health care facilities for the specific statutory language.

INSTANCES OF EXPOSURE & RISKS OF TRANSMISSION

Dried blood: the risk of HIV transmission through exposure to dried blood found on syringes is extremely low.

Bloody splash: The risk of contracting HIV after exposure to the mucous membranes from a bloody splash is lower than a needle stick—that is, less than 1 in 1,000 or 0.1 percent.

Exposure to skin: The risk of HIV-infection after exposure via the skin is considered to be even less than that of mucous membranes from a bloody splash.

NEEDLE-STICK EXPOSURE

Some healthcare workers have reported contracting HIV through accidental needle sticks while recapping needles.

Safety needles specifically designed to prevent accidental needle-sticks should always be mandated.

Recapping of needles under any circumstances must be prohibited.

DETERMINING RISK LEVELS

To obtain data on the survival of HIV, laboratory studies used artificially-high concentrations of laboratory-grown virus. CDC studies have shown that the drying of even these high concentrations of HIV reduces the amount of infectious virus by 90 to 99 percent within several hours.* Therefore, the drying of HIV-infected human blood or other fluids reduces theoretical risk of environmental transmission to what is essentially zero.

POST-EXPOSURE PROPHYLAXIS

When it comes to the management of exposure for healthcare personnel, the CDC has a standard set of post-exposure prophylaxis (PEP) guidelines and recommendations. These guidelines outline the considerations used to determine whether or not PEP is indicated and, if so, which PEP medicines should be used.

Occupational exposures should be considered an urgent medical concern to ensure timely post-exposure management and administration of hepatitis B immunoglobulin (HBIG), and/or HIV PEP.

If PEP is indicated: If PEP is indicated, it's best to start treatment as soon as possible after the exposure—hopefully within the first hour or two. Treatment is generally indicated for 28 days. When PEP is used, the risk of HIV infection (from a single occupational exposure) is reduced by about 81 percent. The treatment generally involves multiple drugs and, as with any drug, there can be side effects.

Post-exposure guidelines:

- If you have an occupational exposure, immediately wash the area with soap and water.
- Do not “milk” or squeeze the wound. Squeezing the wound may promote hyperemia and inflammation at the wound site, potentially increasing systemic exposure to HIV if present in the contaminating fluid.
- Practice safe sex.
- Safely dispose of all needles used for injecting yourself with medications.
- Ensure all reasonable safety precautions are taken to avoid infecting others until you know with certainty that you have not become infected with HIV.
- Educate yourself about all the possible HIV test results. Understand your baseline HIV test result. The baseline HIV test will usually be done on the exposure date. Should those baseline results be positive, it means you were infected before the occupational exposure. If your baseline HIV test is negative, then you should expect to be retested according to your facility's exposure control plan—generally at 6 weeks, 3 months and 6 months. A negative HIV after 6 months means you did not contract HIV as a result of the occupational exposure. At that point, you may stop your PEP measures.

PRE-EXPOSURE PROPHYLAXIS

Pre-exposure prophylaxis, or PrEP, is an HIV prevention method in which people who do not have HIV infection take a pill daily to reduce their risk of becoming infected. The pill contains medicines that prevent HIV from making a new virus as it enters the body. In this way, PrEP medicines can help keep the virus from establishing a permanent infection.

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History of pre-exposure medication: Providing a preventive medication before exposure to a germ or virus is not a new practice and has been used to prevent other diseases. For example, when individuals travel to an area where malaria is common, they are advised to take malaria medication before and during travel to prevent getting infected if bitten by a mosquito carrying the malaria parasite.

Effectiveness of PrEP HIV medication: The use of medication to prevent HIV infection has only recently been evaluated. When used consistently, PrEP has been shown to reduce the risk of HIV infection among adults at very high risk for HIV infection through sex, including men who have sex with men and heterosexually active men and women. CDC is also evaluating PrEP's effectiveness in preventing HIV infection among individuals exposed to HIV through injecting drugs—however, those results are not yet available.

PrEP regimen: PrEP may provide a much-needed additional prevention method for individuals who are at a very high risk for sexual exposure to HIV. However, it won't be right for everyone. PrEP is an intensive approach that requires strict adherence to daily medication and regular HIV testing. It's not intended to be used in isolation, but rather in combination with other HIV prevention methods. If it's used effectively, and by people at very high risk, PrEP may play a role in helping to reduce the number of new HIV infections in the United States. (Source: PrEP: A New Tool for HIV Prevention, CDC Fact Sheet August 2012)

OCCUPATIONAL EXPOSURE: THE LEGAL FACTS

Reducing the chance of transmitting infection in health care settings starts with proper attention to Universal and Standard Precautions.

Universal precautions: Medical authorities recommend that health care workers use appropriate standard protections known as "universal precautions." These precautions include latex or polyurethane gloves, gowns, and/or masks—and they should be used whenever there's a chance that we'll be exposed to the body fluids of a patient.

Nevertheless, accidental exposures can happen. The Florida's Omnibus AIDS Act defines "significant exposure" in some detail, but it can be summarized as the exposure of the skin or mucous membranes of a health care worker to the blood or body fluids of a patient or when the health care worker experiences a needle stick or sharps accident from a needle or sharps that has previously been used on a patient.

Fortunately, the number of documented transmissions to health care workers from patients is extremely low and nearly all of these cases involved transmission by persons with clinical AIDS.