



GUIDELINES FOR PERSONNEL INVOLVED IN COLLECTION OF SKIN SMEARS IN LEPROSY
CONTROL PROGRAMMES FOR THE PREVENTION AND CONTROL
OF POSSIBLE INFECTION WITH HIV

Acquired immunodeficiency syndrome (AIDS) is a serious clinical condition with various manifestations characterized by underlying cellular immunodeficiency. It is caused by the human immunodeficiency virus (HIV). HIV has been demonstrated in various body fluids, but epidemiological evidence has thus far implicated only blood, semen, and vaginal/cervical secretions in transmission of infection. HIV is very sensitive to standard methods for sterilization and disinfection, and methods designed to inactivate other viruses (e.g., hepatitis B virus) will also inactivate HIV. Heat is the most effective method for inactivating HIV, and is therefore the method of choice. In practical and field settings, high-level disinfection with chemicals is far less reliable. The most important mode of transmission of HIV is sexual contact; however, the accidental or intentional sharing or reuse of contaminated (unsterilized) needles, syringes, scalpels, razors, or other instruments that pierce the skin or mucous membranes can also transmit HIV. Thus, it is important to be sure that health workers are familiar with basic practices for infection control.

Recommendations

The potential for the spread of HIV infection when taking a routine skin slit smear is probably quite low. However, in order to eliminate any risk of transmission of HIV, either from patient to patient or patient to health worker, the following recommendations (which apply to the prevention of transmission of any blood-borne infectious disease) should be strictly observed. Principles of good hygiene, sterilization, antisepsis and disinfection provide the basis for these recommendations.

- (1) Ideally scalpels with sterile detachable blades should be used for collecting skin smears and the blades disposed of after use. In situations where this is not feasible, it is extremely important that scalpels or scalpel blades of the reusable type are subjected to strict or high-level disinfection procedures (see below) in order to prevent potential patient to patient transmission of HIV. In field programmes where smears may need to be collected from a number of patients, it will be necessary to ensure that the required numbers of sterile scalpels or scalpel blades are available.
- (2) It is important that health workers handle the sharp instruments employed for skin smear collection with extreme care to prevent accidental injuries to themselves, particularly those with injuries or sores on their hands, should wear gloves to protect themselves against contact with the patients' blood or smear material both during the collection of smears and when handling slides. Blood or other body fluids spilt on the skin of health workers should be removed with cotton soaked in a disinfectant (ethanol or sodium hypochlorite solution). Health workers should wash their hands immediately after completion of smear taking. All materials contaminated with blood should be sterilized or disposed of in a safe manner, e.g., by burning.

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Sterilization and disinfection

Sterilization by steam or dry heat, and disinfection by boiling are the most effective methods for inactivating HIV. Boiling is the simplest and most reliable method for inactivating HIV when sterilization equipment is not available. Chemical disinfection is much less reliable and should only be employed as a last resort if neither sterilization nor high-level disinfection by heat is possible, and then only if the appropriate concentration and activity of the chemical can be ensured. It is imperative that all instruments be cleaned thoroughly before being sterilized or disinfected.

Sterilization

Ideally, all reusable instruments entering the blood stream or tissue should be sterilized by steam under pressure (autoclaving). Autoclaves should be operated at 121°C (250°F) for a minimum exposure time of 20 minutes. Such equipment may also be disinfected at high level by boiling for 20 minutes.

Disinfection by soaking

Many disinfectants recommended for use in health care facilities have been found to inactivate HIV in laboratory testing. However, in practice, chemical disinfectants are less reliable, because they may be inactivated by the presence of blood and other organic material. Also, they may rapidly lose their strength during storage. The following chemical disinfectants have been shown to be effective in inactivating HIV with a soaking time of 30 minutes:

sodium hypochlorite, 0.1 - 0.5% available chlorine; ethanol, 70%; isopropyl alcohol, 70%; povidone iodine, 2.5%; formaldehyde, 4%; glutaral, 2%; and hydrogen peroxide, 6%.

Injections and biopsy collections

The above procedures, in general, are also applicable for the safe use of syringes for administering injections, and of instruments for collecting biopsies. While, under ideal circumstances, use of disposable syringes or other instruments is preferable, it may not always be feasible. In such circumstances, it is important that strict procedures are followed for sterilizing reusable syringes and other instruments as indicated above.

Conclusion

Skin smear examination remains an important part of leprosy control work and will continue to be a very safe procedure both for patients and health workers provided that the necessary simple precautions outlined above are strictly followed.

For more details, see: Guidelines for sterilization and high-level disinfection methods effective against human immunodeficiency virus. Geneva, World Health Organization, 1988 (WHO Aids Series, No.2)