HIVAIDS in the Workplace Fact Sheets

WHAT IS HIV AND AIDS?

The Human Immunodeficiency Virus (HIV) is a virus that infects the immune system. Acquired Immune Deficiency Syndrome (AIDS). AIDS is the most advanced stage of the HIV infection and causes the immune system to become vulnerable to other infections. HIV can also be known as “the AIDS virus.”

The full name for AIDS describes several of the characteristics of the disease.

Acquired indicates that it is not an inherited condition.

Immune Deficiency indicates that the body’s immune system breaks down.

Syndrome indicates that the disease results in a variety of health problems.

It takes on average, 5-10 years for the initial HIV infection to progress to AIDS if not treated. While there is presently no cure or vaccine for HIV, with proper medical care, HIV can be managed and a near-normal lifespan can be expected with early treatment.

HOW DOES HIV AFFECT THE BODY?

The human immune system involves many types of cells which guard against germs responsible for most diseases. The immune system’s most important guard cells are B-cells and T-cells, which are special white blood cells. B-cells and T-cells cooperate to fight any germ that attacks the human body.

B-cells produce particular proteins, called antibodies, that try to neutralize the invading germ. After a person recovers from an infection, these antibodies continue to circulate in the bloodstream, acting as part of the immune system’s “memory.” Immune system memory explains why a person rarely suffers a second attack from an infectious disease such as measles. If the same germ is encountered again, the antibodies will recognize and neutralize it. T-cells attack the germ directly and try to kill it.

Special white blood cells, called T-helper cells, activate B-cells and T-cells to fight infection. When a virus gets into the blood stream, T-helper cells activate B-cells and T-cells. These then start communicating with each other to develop the proper strategy to fight the virus. But when the body is infected with HIV, this does not happen. HIV penetrates T-helper cells and, over time, multiplies. This action eventually kills T-helper cells. Without T-helper cells, activation of B-cells and T-cells does not occur. Without activation of B-cells and T-cells, the body’s immune system cannot function properly. When T-cell counts reach a certain level and there are HIV antibodies present in the bloodstream, a person is considered to have AIDS.

HOW IS HIV TRANSMITTED?

HIV is transmitted from an infected person by body fluids such as blood, semen, breast milk, rectal fluids, vaginal fluids or other blood-containing secretions. Transmission occurs when these fluids come in contact with the various mucous membranes of the body, through cuts/openings of the skin, or directly injected into the bloodstream. As a result, anyone who is occupationally (or otherwise) exposed to these body fluids risks contracting the disease. Preventive measures include wearing protective clothing, gowns, gloves, masks and goggles to control the spread of HIV among workers who may be at risk.

Unprotected sexual intercourse with infected people poses the single most important risk of infection. HIV can also be passed from one partner into the bloodstream of the other through tiny cuts or scratches.

Intravenous drug abusers may contract HIV if they share needles with infected people. Hemophiliacs requiring frequent transfusions or blood products (factor VIII) are at risk due to the possibility of receiving contaminated blood. Since 1985, Canada’s Red Cross has been screening all blood donations for HIV antibodies.

If an individual is struck with a HIV-contaminated needle or sharp object can also pose an opportunity for transmission. Health care workers are at high risk for this type of exposure.

HIV can be transmitted from an infected mother to her unborn child before or during birth, or through breastfeeding. Studies indicate infection takes place across the placenta. Therefore, a Cesarean section delivery does not prevent the transmission of HIV from an infected mother to her infant.

Some reports indicate that HIV can be transmitted through heart, pancreas, kidney, liver and bone transplants, and by artificial insemination. All organs are screened for HIV antibodies before transplantation.

The transmission of HIV occurs only when the virus enters the bloodstream. Casual contact with a person who has HIV does not pose a risk. Several studies indicate that sharing telephones, swimming pools, toilets or other household items and facilities with people infected with HIV poses no risk. The virus is not transmitted during the preparation or serving of food and beverages. The virus is also not known to travel through air or to be transmitted by mosquitoes or other insects.

Some studies show HIV transmission did not occur after bites from patients infected with the HIV unless the skin is broken. This fact suggests that transmission of HIV through contact with saliva alone is unlikely.

HOW LONG DOES IT TAKE TO DEVELOP THE DISEASE?

There is no fixed period between the first contact with HIV and the development of the disease. Signs and symptoms resulting from infection with HIV develop in stages. Many infected individuals may have no symptoms for several years. But others may develop symptoms within three years from the time of infection.

Symptoms of HIV infection are fever, swollen lymph glands in the neck and armpits, sweating, aches, fatigue, unexplained weight loss and diarrhea.

Within eight years, about 50 percent of all infected people develop specific conditions categorized as AIDS. These conditions include a lung disease called “pneumocystis carinii pneumonia,” skin tumours called “Kaposi’s sarcoma,” fungal and viral infections such as candidiasis and herpes zoster, and severe diarrhea.

Some AIDS patients also suffer from dementia resulting in problems with memory and thinking. AIDS patients are prone to various infections of the brain, just as they suffer from an unusually high number of cancers, bacterial and viral infections of

other parts of the body.

HOW IS HIV RECOGNIZED?

Doctors use laboratory tests to confirm HIV infection. The Elisa and Western Blot analyses identify people who have been exposed to HIV. These tests determine if the blood contains particular antibodies that result from contact with the virus. They do not identify who among a group of infected individuals will develop the disease. The presence of antibodies or HIV markers means the person has been infected with HIV but no one can predict when and if they will get AIDS related symptoms.

Doctors diagnose AIDS by blood tests (tests showing less than 200 CD4+ T cells per cubic millimeter of blood, compared with about 1,000 CD4+ T cells for healthy people, and CD4+ T cells accounting for less than 14 percent of all lymphocytes, a type of white blood cell) and the presence of specific illnesses such as pneumocystis carinii pneumonia or Kaposi's sarcoma. These diseases overcome the weakened immune system and are responsible for the high death rate among AIDS patients.

CAN HIV OR AIDS BE TREATED?

As yet, there is no cure for HIV or AIDS. Individuals infected with HIV have been receiving improved care and newer and more effective treatment including prophylaxis. There are many antiretroviral drugs available. But so far, these treatments can only slow or suppress the virus, not eliminate it.

IS HIV AND AIDS AN OCCUPATIONAL CONCERN?

Where ever there is the possibility of contact with blood in the workplace, workers should take precautions to prevent contact with the skin, eyes or mucous membranes (e.g. mouth).

Routine Practices are recommended to prevent the spread of HIV in the workplace. Routine practices are based on the principle that all blood, body fluids, secretions, and excretions except sweat, non-intact skin, and mucous membranes, unless they contain visible blood, may contain transmissible infectious agents. Steps involve using protective clothing such as gloves, gowns or aprons, masks and protective eye wear when dealing with people's blood and other blood-contaminated body fluids such as semen and vaginal secretions. They also do not apply to saliva except in dentistry where saliva is likely to be contaminated with blood.

Hand washing after contact with blood, blood-contaminated body fluids and soiled items is also recommended to reduce the risk of infection.

The best approach to most diseases is to prevent their occurrence – occupationally-related diseases are no exception. In the case of HIV, prevention is the only cure.

WHAT IF THERE IS AN ACTUAL OR SUSPECTED EXPOSURE TO HIV?

The decision to begin a post-exposure prophylaxis (PEP) for HIV infection is based on the judgment of a health care professional and should be a joint decision with the exposed worker. PEP often involves taking a combination of 2 or 3 antiretroviral drugs for about 4 weeks. PEP can help reduce, but not eliminate, a person's risk of infection. The PEP should begin as soon as possible, as it may be less effective if started more than 72 hours after exposure.

Occupational Groups Risking Exposure to the AIDS Virus

The occupational groups listed below risk exposure to HIV in the workplace. The table that follows suggests preventive measures for these groups. For many situations, using all protective barriers listed in the table is not necessary, but workplaces should always make them available in case of emergency response scenarios.

Surgeons, Nurses and Nurses Aides

Surgeons, nurses and nurses' aides should take precautions to avoid needlestick injuries, cuts with sharp instruments and exposure through skin lesions to potentially infectious blood and body fluids.

Physicians and Laboratory Workers

These people continuously handle infectious samples. Doctors, in diagnosing HIV patients, carry out physical examinations and collect blood samples. Laboratory technicians analyze potentially infected samples.

Ambulance Workers

Ambulance workers are potentially at risk because they attend accidents and fatalities. Ambulance workers perform first aid on individuals for whom no medical information is available. Blood contact is a possibility for workers when removing injured people from the scene of an accident.

Dental Workers

Dental workers are exposed daily to the blood and saliva of patients. Precautionary measures should be adopted because of possible exposure to HIV, and because the mouth can be the vehicle for the transmission of many infectious diseases.

Embalmers

Embalming the bodies of persons with a HIV infection presents a risk because HIV can live for hours in a deceased body.

Police and Firefighters

These workers attend accident scenes where they might be exposed to HIV through blood contact with skin cuts or scratches.

Mental Health Institution Workers and Correctional Service Workers

These workers risk exposure to HIV when cleaning blood spills or when giving first aid where there is a possibility of blood contact.

A particular concern that correctional service workers share with police is dealing with violent people. Workers bitten by prisoners or suspects require prompt medical attention. Bites frequently result in infection with organisms other than HIV.

Cleaners

Cleaning staff risk exposure when cleaning up spills of blood or other body fluids. Cleaning staff need to know how to use protective clothing and proper cleaning techniques. All cleaning equipment used to clean spills of body fluids should be kept in a restricted area and should not be used in any other area of the workplace.

Laundry Workers

Launderers are exposed to potentially contaminated linen. All laundry should be bagged and labelled as possibly infectious if there was contact with any person with an infectious disease.

Incinerator Attendants

Incinerator attendants in health care facilities risk exposure to HIV while disposing of infectious waste.

Post-mortem Attendants

These workers are at risk especially if an autopsy is necessary when a patient with a HIV infection dies.

Preventive measures for reducing occupational exposure to HIV	
Occupation	**Preventive Measures**
Surgeons, nurses and nurses aids	• Wash hands. • Use gloves. • Wear goggles, gowns and masks if splashing of body fluids is expected. • Use disposable needles, syringes and devices for mouth-to-mouth resuscitation. • Bag and label contaminated linen.
Physicians and laboratory workers	• Wash hands. • Use coats and gloves. • Wear goggles, gowns and masks if splashing of body fluids is expected. • Use disposable needles and syringes, mechanical pipetting devices and biological safety cabinets. • Disinfect work surfaces and equipment with sodium hypochlorite solution
Ambulance workers	• Wash hands. • Use gloves. • Use disposable needles, syringes and devices for mouth-to-mouth resuscitation.
Dentists and other dental workers	• Wash hands. • Use gloves. • Use disposable needles and syringes • Use goggles, gowns and masks if splashing of blood is expected.
Embalmers	• Wash hands. • Use gloves, gowns, boot-covers, goggles and masks. • Use disposable surgical instruments. • Sterilize reusable equipment. Disinfect work surfaces with sodium hypochlorite solution.
Police and firefighters	• Wash hands • Use gloves. • Use disposable devices for mouth-to-mouth resuscitation.
Mental health institution workers and correctional service workers	• Wash hands. • Use gloves. • Keep cleaning equipment in restricted areas. • Use disposable devices for mouth-to-mouth resuscitation.
Cleaners	• Wash hands. • Use gloves. • Keep cleaning equipment in restricted areas.
Laundry workers	• Wash hands. • Use gloves.
Incinerator attendants	• Wash hands. • Use gloves.
Post-mortem attendants	• Wash hands. • Use gloves. • Wear goggles, masks and boot-covers if splashing of blood and body fluids is expected. • Bag, label and incinerate wastes.