



This information sheet outlines the procedure to follow when there is exposure to lentiviral vector.

Note: This guidance document provides information that medical personnel can reference. Individualized medical care or treatment protocols will be decided by the attending physician/ medical team.

Lentivirus vectors are retroviruses, such as HIV, modified for research and therapeutic applications that allow for their use as a carrier vehicle for genetic material. These are modified to broaden the cell types that can be targeted for introducing genetic material and modes of transmission of the vectors beyond percutaneous and mucocutaneous. Exposure is a concern for individuals who have experienced direct parenteral inoculation, contact with mucous membranes or non-intact skin, or direct contact with droplets at a close range from an aerosol-generating procedure.

Risk of a lentiviral vector are referred to as insertional risk and include the effects of the expressed transgene or toxin introduced into the vector's target cell genome. This can introduce potential long-term problems, particularly when introduced in a genetically sensitive area.

As noted by the NIH, the two main safety concerns surrounding the use of lentiviral are:

- a. The potential for generation of replication-competent lentivirus
- b. The potential for oncogenesis

3.1. First Aid Immediately after Exposure

- a. Eye Exposure: Rinse for 15 minutes at an eyewash station.
- b. Skin Exposure: Wash the area with soap and warm water for 15 minutes. Use a safety shower for 15 minutes if a large portion of skin is affected (spill).
- c. Needlestick or sharps exposure: Wash the area with soap and warm water for 15 minutes.
- d. Do not squeeze the area of injury or use chemicals like bleach, as they are not known to be beneficial and may break down the skin's barrier function.

3.2. Document and Understand the Exposure

- a. Confirm the type of lentiviral vector, its generation (at SFU only third generation is permitted), the purpose of the vector and what is carried by the vector? What cell type is being worked with at time of exposure?
- b.



3.3. Medical Follow-Up: Proceed Without Delay