

In any clinical setting, HIV may be transmitted by

- Injury with **needles** or sharp instruments **contaminated** with blood or body fluids
- The use of equipment that has not been properly **disinfected, cleaned** and **sterilized**
- Contact between **open wounds**, broken skin (for example, caused by dermatitis) or mucous membranes and contaminated blood or body fluids
- **Transfusion of infected blood or blood products**
- **Vertical transmission** between mother and child during, pregnancy, delivery and breast feeding

The purpose of infection precautions and aseptic technique is to prevent the transmission of infection.

Best protection against HIV and other transmissible infections is attention to every detail of asepsis, with special care to avoid injury during operation.

Each hospital should have clear guidelines for the management of injury or exposure to infectious materials.

Take care of your patients, co-workers and yourself

- Do not recap needles
- Set up “**sharps**” **containers** for disposable needles & scalpel blades; the greater distance to dispose of a sharp, the greater the chance of an accident
- Always put sharps into a **puncture** and **tamper-proof container** that has been labeled clearly
- Do **not use the same injection** set on more than one patient
- Dispose of your own sharps

For the surgical team, several points are particularly relevant

- Protect areas of broken skin and open wounds with watertight dressings
- Wear gloves during exposure to blood or body fluids and wash your hands with soap and water afterwards
- Wash immediately with soap and water in case of skin exposure or contamination, whether from a splash, glove puncture or non-gloved contact
- Wear protective glasses where blood splashes may occur, such as during major surgery; wash out eyes with water as soon as possible if they are splashed
- Wear a protective gown or apron if splash potential exists
- Clean blood spills immediately and safely
- **Anyone entering the operating room, for whatever reason, should first put on:**
 - Clean clothes
 - An impermeable mask to cover mouth and nose
 - A cap or hood to cover all the hair on the head and face
 - A clean pair of shoes or clean shoe-covers
- **Caps, gowns and masks** are worn to decrease the risk of patient exposure to contamination or infection from the surgical team.
- **Sterile instruments, gloves and drapes** are also key elements in the fight against contamination

Aseptic Technique

Infection is the most important and preventable cause of impaired wound healing.

Microorganisms can reach the tissues during an operation or manipulation of the surgical wound.

Microorganisms are carried and transmitted by the following:

- People, including the patient
- Inanimate objects, including instruments, sutures, linen, swabs
- Mattresses and blankets
- The air around a wound which can be contaminated by dust and droplets of moisture from anyone assisting at the operation or caring for the wound

The **aseptic treatment of a wound** is an attempt to **prevent contamination** by **bacteria** from all these sources, during the operation and throughout the initial phase of healing.

Bacteria can never be absolutely eliminated from the operating field, but aseptic measures can reduce the risk of contamination.

Aseptic technique includes attention to innumerable details of operating technique and behaviour.

Prevention of Bloodborne Infections During Anesthesia and Surgery

Where **blood supplies are scarce or unsafe**, it may be possible to use **pre-donation** by the patient in elective cases or to use **autologous transfusion** in emergencies

Minimize the risk of transmission of infection:

- NEVER leave syringes attached to needles that have been used on a patient
- For intravenous injection, use plastic infusion cannulae with injection ports that do not require the use of a needle, wherever possible
- Ensure that blood spills are immediately and safely dealt with
- Use gloves for all procedures where blood or other body fluids may be spilled
- Where blood spillage is likely, use waterproof aprons or gowns and eye protection

Infection Prevention & Universal Precautions

Hand washing is the single most important measure for prevention of infection

Hand washing, the use of barrier protection such as gloves and aprons, the safe handling and disposal of "sharps" and medical waste, proper disinfection, cleaning and sterilization are all a part of creating a safe hospital

1. A safe injection does not harm the recipient, does not expose the provider to any avoidable risk and does not result in any waste that is dangerous for other people
2. Use a sterile syringe and needle for each injection and to reconstitute each unit of medication
3. Ideally, use new, quality controlled disposable syringes and needles
4. If single-use syringes and needles are unavailable, use equipment designed for steam sterilization
5. Prepare each injection in a clean, designated area where blood or body fluid contamination is unlikely
6. Use single-dose vials rather than multi-dose vials
7. If multi-dose vials must be used, always pierce the septum with a sterile needle; avoid leaving a needle in place in the stopper of the vial. Once opened, store multi-dose vials in a refrigerator.