

# **Post- exposure prophylaxis**

# DEFINITION

- PEP is a short term treatment to reduce the likelihood of HIV infection after a potential exposure ,either occupationally or non occupationally .
- Treating HIV exposure has been shown to decrease the incidence of sero conversion and HIV infection.

# Exposure

- Non occupational : risky behaviours (sharing of needles among IDU'S, unprotected sexual intercourse with high risk partners.) and sexual assault.
- Occupational : needle stick injury ,splash of blood or body fluids into eyes, cut injury during operations.
- Personel involved : mostly health care personel, prison officers.

# TYPES OF EXPOSURE

- Per cutaneous
- Muco cutaneous or
- Non intact skin

Source material: blood, bloody fluids or potentially infectious fluids (semen, vaginal secretions , amniotic fluid , cerebrospinal fluid, pleural fluid, peritoneal fluid and synovial fluid)that are potentially HIV positive.

# OCCUPATIONAL EXPOSURE

1. Casualty
2. Operating theatre
3. Obstetrics – Labour ward
4. Blood Bank
5. Laboratory are the most exposed departments

# HCP more Exposed

1. Nurses
2. Surgeons
3. Lab technicians
4. Cleaners & Attendants

# High Risk Activities

1. Extracting blood from arteries
2. Difficult veins for IV line (IDU's) insertions
3. Blind injections
4. Suturing restless patients in casualty
5. Blind suturing
6. Splash of blood or liquor into the eyes

# Ex.insertion of iv line

Preparation of material  Risk Nil	During insertion  Risk 33%: Inattention Fatigue Night shift Personal worries Restless patient	Moment of disposal of soiled material  Risk 66%:  Dispose directly into sharp container
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# FIRST AID

- Manage exposure incident- allow free bleeding under running water. Do not provoke bleeding.
- Wash thoroughly with soap and water. Do not scrub.
- Dip in or in contact with Javel 12 (10% diluted), Alcohol 70% for 5 minutes.
- If eyes are involved, wash immediately with running water for 5 minutes

# IMMEDIATE ACTION

- The incident should be reported and documented. Witnessed by 1 or 2 staff.
- Exposed person should see the referral doctor(NDCCI) or emergency doctor,
  - best within 2--- 4 hours
  - at latest 48 hoursto decide upon the initiation or not of a prophylactic treatment.

# RISK EVALUATION

- 1. Types of exposure  
(minimal , intermediary , massive)
- 2. Source of infection  
(HIV status known or unknown)
- 3. Time lapse between exposure and presentation at AED/NDCCI

# 1. Types of exposure

Minimal exposure --- superficial abrasions

## **Massive exposure**

- Deep needle prick injury with bore needle IV or IA
- Exposure to concentrated body fluids (in laboratory)

## ➤ **Intermediary exposure**

- Superficial prick injury with bore needle IM
- Intra op cut injury while wearing gloves

# IMMEDIATE ACTION

- Send samples of blood from both
  - - the source person (seek voluntary HIV testing– rapid testing during working hours or serology for HIV)
  - - the exposed person (prior to pep initiation )
- Evaluate for HBV and HCV, VDRL TPHA

# Risk evaluation

## Serology source person

- Exposure to HIV positive source person:
  - percutaneous 0.3%
  - per mucosae 0.03%
- Source unknown – PEP recommended
- If HIV status unknown ,risk is multiplied by prevalence of the country/region,hospital or institution.

# Risk evaluation

## non occupational exposure

Risk depends on types of exposure

- Anal > vaginal > oral
- Receptive partner > active partner

Risk of transmission for :

- Anal receptive -- .66%---1.43%
- Anal insertive-----0.11%---0.62%
- Vaginal insertive---0.05%---0.15%
- Oral receptive ---0.04%
- Sharing of needles---0.67%

# RECOMMENDATION FOR PEP PROPHYLAXIS

- 3 criterias to consider:
  1. Source person HIV POSITIVE or UNKNOWN
  2. Exposure +
  3. Delay < 48 hrs since exposure
- **If yes to all three criterias  $\Rightarrow$  PEP to be given**
- **If no to  $\geq 1$  criteria  $\Rightarrow$  PEP not justified**



# Treatment

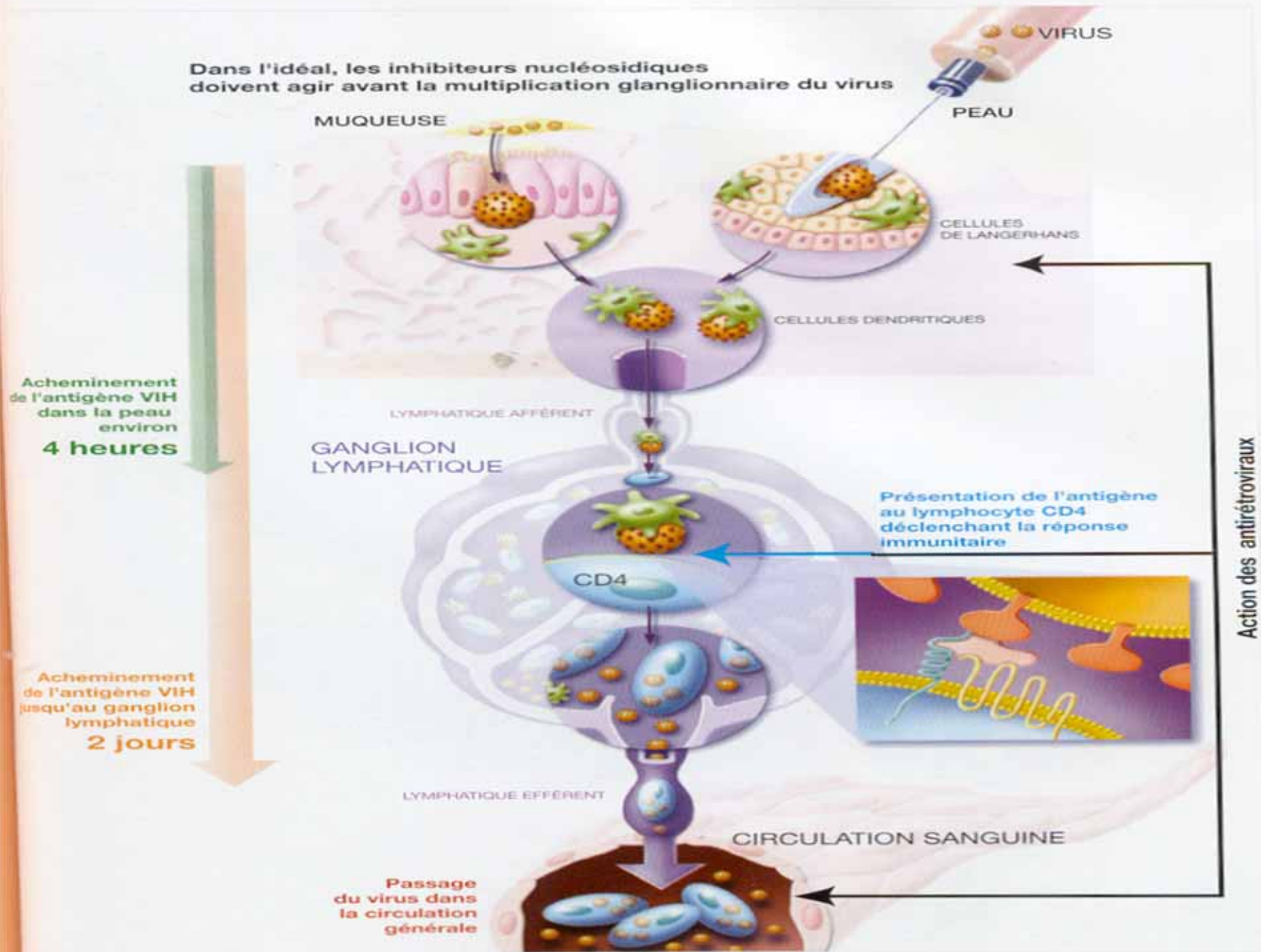
## Definition:

Treatment after an exposure to HIV

- Is a prophylactic measure to prevent spread of HIV infection .
- In the first 48 hours to stop its replication before its dissemination

The risk of being infected is reduced by 80%

Dans l'idéal, les inhibiteurs nucléosidiques doivent agir avant la multiplication ganglionnaire du virus



# TREATMENT

- Initiate treatment ideally within 2 hrs at AED
- Review with HIV specialist within 48 hrs
- Exposed person should be informed about potential drug toxicities , importance of adherence to therapy
- Review in 2 weeks for adherence issues, side effects, emotional status.
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# Treatment

- Zidovudine (AZT) 300mg B.D
  - Lamivudine (3TC) 150mg B.D
- or Combivir 1 tab. B.D/Truvada 1 tab OD
- 3rd Molecule : Protease Inhibitor (Aluvia 2 BD)or other options.
  - Duration: 28 days
  - Side-effects: fatigue, headache , nausea, vomiting, anaemia, neutropenia.

# FOLLOW UP CARE

- During working hrs for advice ,counseling
- Review in 2 weeks for results of baseline serologies
- Educate exposed person to report acute symptoms.
- Ensure medications (ARV) are available
- Discontinue if source person negative.

# FOLLOW UP CARE

- Serological tests to be repeated 1, 3, 6 months after last dose of ARV.
- Counsel about need for risk reduction measures until testing excludes HIV, HBV, HCV infections.
- Advise to refrain from blood or organ donations, breastfeeding, to postpone pregnancy.

## Universal precautions

- After any exposure to body fluids
  1. Wash hands thoroughly.
  2. Wear gloves during any risk of exposure....
  3. Do not expose any injuries.

## **Politique de prévention 2**

### **Précautions universelles en milieu de soins**

4. Faire attention lors d'un geste ou toute manipulation d'instruments pointus ou tranchants. Les jeter immédiatement dans un conteneur spécial.
5. Ne jamais recapuchonner les aiguilles, ne pas dégager les aiguilles des seringues.  
(D'après une étude en France, plus de la moitié des accidents était évitable)



## **Politique de prévention 3**

### Précautions universelles en milieu de soins

6. Se protéger des projections: Porter un masque, des lunettes, une surblouse lorsqu'il y a un risque de projection (aspiration trachéo-bronchique, soins de trachéostomie, endoscopies, cathétérismes, chirurgie..).
7. Décontaminer immédiatement les instruments utilisés et les surfaces souillées.

# **Comment détruire le VIH**

<b>INACTIVATION PAR DES MOYENS CHIMIQUES</b>	<b>DILUTION</b>	<b>TEMPS D'INACTIVATION</b>
<b>Eau de Javel (12° chlorométrique)</b>	<b>1 pour 50</b>	<b>15 minutes</b>
	<b>1 pour 10</b>	
<b>Eau Oxygénée à 6%</b>		<b>3 minutes</b>
<b>Alcool à 70°</b>		<b>1 – 4 minutes</b>
<b>Dérivés Iodés</b>		<b>15 minutes</b>
<b>Chlorhexidine (Hibitane)</b>		<b>rapide</b>
<b>(Cetavlon)</b>		<b>10 – 30 minutes</b>

<b>INACTIVATION PAR DES MOYENS PHYSIQUES</b>	<b>CONDITIONS</b>	<b>TEMPS D'INACTIVATION</b>
<b>Chaleur</b>	<b>56°</b>	<b>30 minutes</b>
	<b>ébullition</b>	<b>15 minutes</b>
	<b>121° (autoclave)</b>	<b>&lt;15 minutes</b>
<b>Froid</b>		<b>Inefficace</b>
<b>Les rayons</b>	<b>Rayons X</b>	<b>Inefficace</b>
	<b>Rayons Gamma</b>	<b>Inefficace</b>

# Autres virus contaminants

<b>Les Infections Virales</b>	<b>AES : Risque de contamination</b>
<b>VIH</b>	<b>0,3% (3/1000)</b>
<b>Virus de l'Hépatite C</b>	<b>4% (4/100)</b>
<b>Virus de l'Hépatite B</b>	<b>40% (4/10) (existe un vaccin)</b>