

## POST-EXPOSURE PROPHYLAXIS (HIV, HEP B, HEP C)

For full details, consult GGHB's flip-chart guidelines (2002) and the Feb 04 UK Expert Advisory Group on AIDS guidance (Public Folders |GUM | UK & world GUM HIV STI data | UK HIV STI | prophylaxisguidancefeb04) (<http://www.dh.gov.uk/assetRoot/04/08/36/40/04083640.pdf>) and draft BASHH CEG guideline on PEP for sexual exposure ([www.bashh.org](http://www.bashh.org))

### Management Of Occupational Exposure To HIV

#### First Aid

- Encourage bleeding of puncture wounds by gentle squeezing. Do not suck the area.
- Wash the affected area with soap and warm running water, but do not scrub
- Treat mucosal surfaces (e.g. mouth or conjunctiva) by rinsing with warm water or saline. Water for rinsing the mouth must not be swallowed.

#### Assessing the incident

❶ Needlestick injuries : The overall risk is estimated to be 0.3%. The following factors determine risk in any given situation (NEJM 1997;337:1485-90)

- Hollow needle
- Large gauge needle (>18g)
- Visible blood in/on device
- Procedure involved artery or vein
- Gloves not used
- Deep injury (see definitions below)

❷ Contamination of an established cut/abrasion/scratch/burn or other skin lesion.

This would require contact with infected blood, serum or plasma.

❸ Contamination of mucosal surfaces (such as the eye or mouth).

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❹ Injuries where the skin is punctured by, for example, a human bite.

Only one documented case worldwide.

#### Dealing with the source patient

- In the case of hospital-acquired injury, the team caring for the source patient should approach the source patient to conduct a risk assessment (*this is currently under review within Glasgow where it is hoped source assessment will be conducted by senior local nursing staff*)
- Ensure privacy. The injured healthcare worker should ideally not be the person who has to deal with the following procedure.
- Inform that an accident involving an employee has occurred with their blood
- Ask routine risk questions (see GGHB flipchart)

- If the injury was felt to be significant and the source patient is considered to have any risk of infection with HIV/Hepatitis B or C, proceed as below
- After full pre-test discussion (see HIV testing), take blood for testing
- If patient anxious/high risk of HIV infection, refer to HA for full pre-test counselling
- If patient unconscious/intoxicated, assess risk as fully as possible, but do **not** take blood without consent

### Determining risk

Risk is determined by three variables:

- Type of injury
- Prevalence of infection in population to which the source patient belongs and
- Transmission characteristics of bloodborne virus concerned

Population prevalence of HIV, Hepatitis B and C	HIV	Hepatitis B (sAG+ve)	Hepatitis C
Blood donors	0.05%	0.06%	0.1%
Glasgow MSM	3.4%	1.5-4%	-
London MSM	15%		
IDU in Glasgow	1-2%	1-2%	75%
UK Heterosexual GUM clinic attenders	0.2%	<0.04%	0.8% (all men)
Male patients in Glasgow hospitals	0.1%	-?-	-?-
Women giving birth	0.003%	-?-	-?-

### Treatment with PEP

**All patients requiring PEP for HIV must be discussed with the consultant on-call**

If source patient known to be HIV infected or is judged to be at significant risk and definite high risk exposure:

- Offer post-exposure prophylaxis (PEP), ideally within one hour of the injury. If uncertain, PEP is better started and the need for continuation considered once more information (e.g. HIV result) is available.

Key questions:

- Is the patient **pregnant**? Or on COC (reduced effectiveness)?
- Is there an existing **medical condition**?
- Is there potential for **interaction** with other medications that the patient is taking?
- Could the virus be **resistant** to one or more of the drugs?

Standard PEP at present is: Combivir one tablet twice daily and Kaletra two tablets twice daily. However, several factors may influence the regimen (see GGHB flip-chart).

We keep starter packs in GUM drug cupboard in Sandyford. They are also available in the emergency drug stores at each the major city A&E departments. You may need to give out two packs e.g. to cover a long holiday weekend

Antiemetics and anti-diarrhoeals may be given.

### Informed Consent for PEP

Informed consent should be obtained from the exposed person prior to prescribing PEP. The exposed person's understanding of the following should be documented:

- The need for PEP
- (Lack of evidence of efficacy of PEP in circumstances other than occupational exposure)
- Known side effects and unknown toxicity of the drugs to be prescribed
- The importance of close adherence which may improve any efficacy and reduce the risk of infection with drug-resistant HIV, should infection supervene despite PEP
- Arrangements for follow up
- Symptoms and signs which may be associated with HIV seroconversion.
- Practice safer sex and avoid blood donation whether or not on PEP

### Follow up

- PEP should normally be continued for 4 weeks. Published evidence shows that less than 50% of patients complete PEP.
- Patients starting PEP need to be seen in any of the GUM consultant clinics before the end of the starter pack. They do **not** need to be referred to the Brownlee.
- Gartnavel General Hospital prescription pads for continuation of the starter pack are kept in the drug cupboard and patients will need to attend pharmacy there to collect supplies. The HIV specialist pharmacists will also see them to discuss side effects (5-3000 page 4215)
- All health care workers occupationally exposed to HIV should have follow-up counselling, post-exposure testing and medical evaluation whether or not they have received PEP.
- Exposed persons should seek medical advice about any acute illness which occurs during the follow up period. Illnesses characterised by **fever, rash, myalgia**, fatigue, malaise or **lymphadenopathy** may represent a seroconversion illness, or a side effect of the medication.
- In the absence of seroconversion, health care workers need not be subject to any modification of their working practices.
- At least **6 months** should elapse after cessation of PEP before a negative antibody test is used to reassure the individual that infection has not occurred.
- A health care worker who has acquired HIV infection because of exposure to HIV infected material in the workplace may be able to claim Industrial Injuries Disablement Benefit.

### Reporting Of Occupational Exposures To HIV

- Occupational exposure to HIV should be reported (in complete confidence) to the Communicable Disease Surveillance Centre (CDSC) or, in Scotland, to the Scottish Centre for Infection & Environmental Health (SCIEH)
- In the event of exposure to HIV, employers may be required to report the event to Health and Safety Executive (HSE) under the Reporting of Injuries, Diseases and Dangerous Occurrences (RIDDOR) Regulations 1995.

## Management Of Sexual Exposure To HIV: PEPSE

This area remains controversial and national guidelines have not yet been finally agreed. Some patient advocacy groups (e.g. THT) have recently promoted access to PEPSE. Other clinicians are concerned at the population impact of wider access to PEPSE in terms of less focus on safer sex and avoiding HIV, and inevitable budget stress.

### Determining Risk

The risk of an individual acquiring HIV following an exposure is dependant upon the risk that the source is HIV positive where unknown and the risk of the exposure

*Risk of HIV transmission = Risk that source is HIV positive x Risk of exposure\**

(\* including cofactors such as STI's, high viral load and bleeding)

Transmission characteristics (estimated)	HIV	Hepatitis B (sAG+ve)	Hepatitis C
Needlestick	0.3%	high	3%
Receptive anal intercourse	0.1-3%	high	Low
Receptive vaginal intercourse	0.1-0.2%		
Insertive vaginal intercourse	0.03%-0.09%		
Receptive oral sex	0-0.04%		
Mucous membrane exposure	0.09%		

Examples of estimated risk calculations are given here:

Population group	Estimated risk of HIV transmission	
	Source status unknown	Source known HIV +
Unprotected receptive anal intercourse from London-resident MSM	15% x 3% = 0.45% <b>1 / 222</b>	100% x 3% = 3% <b>1 / 33</b>
Unprotected receptive anal intercourse from Glasgow-resident MSM	3.4% x 3% = 0.102% <b>1 / 980</b>	100% x 3% = 3% <b>1 / 33</b>
Receptive vaginal intercourse with UK heterosexual man	0.1% X 0.2% = 0.00002% <b>1 / 500,000</b>	100% X 0.2% = 0.2% <b>1 / 500</b>

- Try and establish the HIV status of the source individual (according to appropriate guidance on HIV testing and consent) as early as possible. PEP can be averted through assertive HIV testing of the source individual.
- Sexual assault may aggravate sexual exposure to HIV and PEPSE may be recommended more readily in this situation.

Recommendations For Prescribing PEPSE (adapted from draft national guidance)

Discuss the following with individuals presenting for PEPSE:

- The rationale for PEPSE
  - The lack of conclusive data for the efficacy of PEPSE
  - The potential risks and side-effects of PEPSE
  - The arrangement for early follow-up with an HIV/GUM clinician
  - Recognition of seroconversion symptoms
- PEPSE is only recommended where the individual presents within **72 hours** of exposure. Within that time frame, it is recommended that PEPSE (if given) should be administered as early as possible.
  - Individuals for whom PEPSE is provided **must undertake an HIV test** with results as available as soon as possible after initiating therapy. Future management of undiagnosed HIV infection may be severely compromised by short-course antiretroviral therapy. Individuals are by definition at higher risk of HIV
  - The Sexual Health Adviser’s role is critical as those presenting for PEPSE are at high risk of HIV acquisition. Areas to discuss include:
    - support over the following 3 to 6 months
    - the need for safer sex for the following 6 months
    - issues around disclosure
    - coping strategies

**Decision table for PEPSE**

Risk activity	Source HIV status / prevalence		
	Known HIV+	High risk (>10%)	Low risk (<10%)
Receptive Anal Sex:		Recommended	Considered
Insertive Anal Sex	Recommended	Considered	
Receptive Vaginal Sex			
Insertive Vaginal Sex			
Fellatio with ejaculation	Considered		Not recommended
Splash of semen into eye			
Fellatio without ejaculation	Not recommended	Not recommended	
Cunnilingus			

**Notification**

- Clinicians should prospectively collect anonymised data to be reported to the CDSC (ideally via the “NONOPEP” study). Details of the data collection can be obtained from Health Protection Scotland, Clifton House, Clifton Place, Glasgow, G3 7LN (telephone 0141 300 1100).
- There is a specific STISS code (D3.8) for recording PEP

**Sexual Health**

- All individuals presenting for PEPSE should be comprehensively screened for other sexually transmitted infections at an appropriate time point
- Hepatitis B vaccination (and immunoglobulin) be considered in addition to PEP in accordance with existing guidance.

## Management Of Other Suspected Exposure To HIV

- This includes sharing drug injecting equipment and community-acquired needlestick injury.
- No data exist on the efficacy of antiretroviral post-exposure prophylaxis following exposure to HIV other than for occupational exposure in a health care setting. Hence due to lack of any evidence of efficacy, at present the Expert Advisory Group on AIDS (EAGA) cannot recommend in favour of, or against its use
- The risk of acquiring HIV in this context is so low that it outweighs the risk of toxicity from antiretroviral drugs

## Management Of Exposure To Hepatitis B

AFTER A SIGNIFICANT NEEDLESTICK OR SIMILAR INJURY	
CATEGORY	RECOMMENDATION
Known Responder	If source blood is <u>confirmed</u> HBsAg positive Give one booster dose of hepatitis B vaccine. Otherwise no action required
Non-Responder	Give HBIG based on risk assessment If source known to be HBsAg positive or highly likely to be, consider adding <b>rapid course</b> of HBV vaccine
Immunised but Response Unknown	Give booster dose based on risk assessment. Check antibody titre now and if necessary in 2 -3 months. If source known to be HBsAg positive or highly likely to be, <b>consider adding HBIG.</b>
Immunised but incomplete course	Give booster dose and complete the course. Check antibody titre now and if necessary in 2 -3 months. If source known to be HbsAg positive or highly likely to be, consider adding HBIG if only one dose of course previously given
Previously unvaccinated	Give rapid course of vaccine and add HBIG based on risk assessment

### Follow up

- Repeat serology at 3 and 6 months
- Avoid unprotected sex & blood donation until follow-up serology
- Contact clinic if symptoms of hepatitis

## Management Of Exposure To Hepatitis C

There is no available post exposure prophylaxis for Hepatitis C.

### Follow-up:

- Serology can take as long as 9 months to become positive
- Avoid unprotected sex & blood donation until follow-up serology.