Post-Exposure Prophylaxis for Sexual Exposure (PEPSE) and non-occupational exposure to bloodborne viruses
NHS Lothian, October 2019

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1 Scope

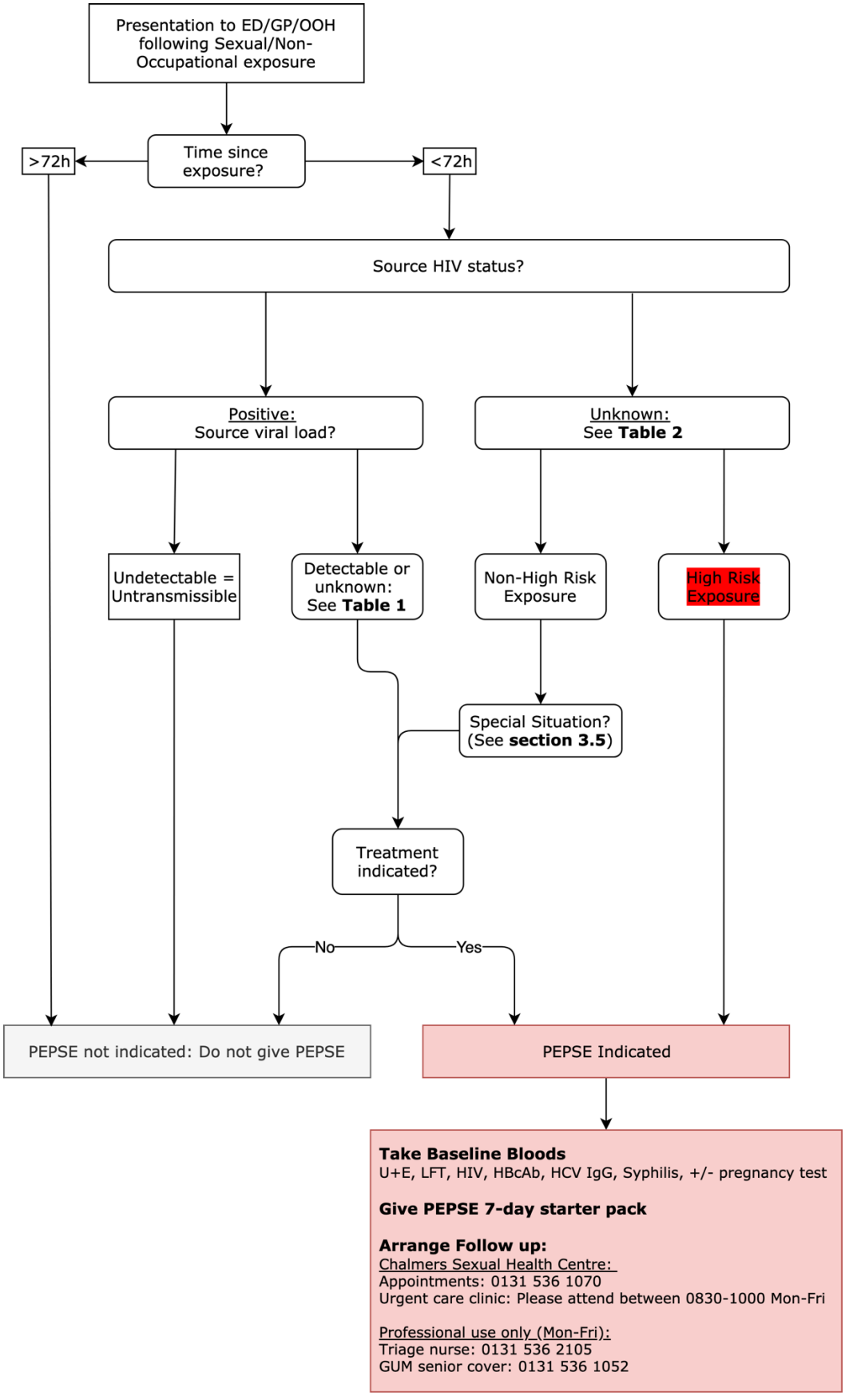
This guideline is for use primarily by healthcare professionals in the emergency department, primary care and GP Out of Hours, for the assessment of individuals aged over 16 presenting following a potential sexual/non-occupational exposure to HIV.

2 Table of abbreviations

CrCl	Creatinine Clearance
CSHC	Chalmers Sexual Health Clinic
ED	Emergency department
GGC	Greater Glasgow & Clyde
HBcAb	HBV core antibody
HBsAb	HBV surface antibody
HBsAg	HBV surface antigen
HBV	Hepatitis B virus
HCV	Hepatitis C virus

HIV	Human immunodeficiency virus
IgG	Immunoglobulin G
LFT	Liver function tests
MSM	Men who have Sex with Men
OOH	Out of hours
PEPSE	Post Exposure Prophylaxis (Sexual Exposure)
PrEP	Pre-exposure prophylaxis (of HIV)
PWID	Persons who inject drugs
U+E	Urea & electrolytes

3 PEPSE Assessment flowchart



3.1 *Overview of PEPSE*

- PEPSE reduces the risk of transmission of HIV by almost 80%.
- It is generally given where transmission risk approaches/exceeds 0.1%.
- PEPSE is most effective if given within 24h of exposure but can be administered up to 72h. Beyond 72h, PEPSE is not effective.
- PEPSE is available at CSHC, Emergency departments at RIE and SJH, and WGH Regional Infectious Diseases Unit and minor injuries unit.

3.2 *Risk of HIV transmission*

Risk of transmission varies with:

- Nature of sexual contact
- HIV serostatus of source (and viral load)
    - If serostatus unknown, background prevalence of HIV in source risk group (e.g. MSM/Heterosexual, ethnicity, PWID etc.)
- Number of exposures within a 72h period (risk is cumulative)

Use tables 1 & 2 below, together with the flowchart above, to determine if PEPSE is indicated.

3.3 *Table 1: Source is known HIV+*

Nature of sexual exposure	PEPSE Indicated? (Y/N)	
	Detectable HIV Viral Load (>40 copies/ml)	**Undetectable HIV Viral Load (<40 copies/ml)**
ANAL SEX: receptive	Y	N
ANAL SEX: insertive	Y	N
VAGINAL SEX: receptive	Y	N
VAGINAL SEX: insertive	CONSIDER	N
Sharing injecting equipment	Y	N
Needlestick- discarded needle in community	N	N
Oral sex/semen in eye	N	N
Human bite	N	N

If source is known HIV+ get details (NB: often the patient is in contact with the source, and can find out these details during the consultation):

- Consultant
- Treatment centre
- Treatment history (including details of drug resistance)
- HIV viral load (90% of patients on treatment have an undetectable viral load)

Undetectable = Untransmissible: Patients with viral load <40 CANNOT transmit HIV.

3.4 *Table 2: Source HIV status unknown*

- The percentages in **A** are to help you calculate cumulative risk from multiple sexual exposures, and have an informed discussion with patients.
- **B** shows the number of exposures of a given activity that would mandate PEP.
- High-risk exposures (in red) should be given PEPSE based on ONE sexual encounter, regardless of % risk.
- If source is on PrEP, DO NOT GIVE PEPSE.

A

Source HIV Prevalence				Risk of Transmission (if untreated HIV+) PER EXPOSURE								
				Anal intercourse				Vaginal intercourse		Oral Sex / Human bite / Semen splash to eye: 0.01%	Injections	
				Receptive (patient receives)		Insertive (Patient inserts)		Receptive (Patient receives): 0.10%	Insertive (Patient inserts): 0.08%		Sharing needles: 0.67%	Needlestick injury: 0.30%
				Ejaculation: 1.54%	No Ejaculation: 0.59%	Patient Uncircumcised: 0.62%	Patient Circumcised: 0.11%					
		Scotland 5.4%		0.08%	0.03%	0.03%	0.01%	0.01%	n/a	0.00%	0.04%	0.02%
	MSM	England & Wales	Overall: 5.9%	0.09%	0.03%	0.04%	0.01%	0.01%	n/a	0.00%	0.04%	0.02%
			London/Brighton/ Manchester: 8.6-13.7%	0.13-0.21%	0.05-0.08%	0.05-0.09%	0.01-0.02%	0.01%	n/a	0.00%	0.06-0.09%	0.03-0.04%
			Elsewhere: 3.8%	0.06%	0.02%	0.02%	0.00%	0.00%	n/a	0.00%	0.03%	0.01%
	Hetero sexual	Black African	Male: 4.1%	0.06%	0.02%	0.03%	0.00%	0.00%	n/a	0.00%	0.03%	0.01%
			Female: 7.1%	n/a	n/a	0.04%	0.01%	0.01%	0.01%	0.00%	0.05%	0.02%
		Other ethnicity	Male/Female: 0.06%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
	PWID	Scotland	Overall: 2.3%	0.04%	0.01%	0.01%	0.00%	0.00%	0.00%	0.00%	0.02%	0.01%
			Greater Glasgow & Clyde: 4.8%	0.07%	0.03%	0.03%	0.01%	0.00%	0.00%	0.00%	0.03%	0.01%
			Lothian: 0.0%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
			Rest of Scotland: 0.5%	0.01%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

B

Source HIV Prevalence				Number of cumulative exposures that require PEP								
				Anal intercourse				Vaginal intercourse		Oral Sex / Human bite / Semen splash to eye: 0.01%	Injections	
				Receptive (patient receives)		Insertive (Patient inserts)		Receptive (Patient receives): 0.10%	Insertive (Patient inserts): 0.08%		Sharing needles: 0.67%	Needlestick injury: 0.30%
				Ejaculation: 1.54%	No Ejaculation: 0.59%	Patient Uncircumcised: 0.62%	Patient Circumcised: 0.11%					
		Scotland 5.4%		1	1	4	10	10	n/a	>10	3	5
	MSM	England & Wales	Overall: 5.9%	1	1	3	10	10	n/a	>10	3	5
			London/Brighton/ Manchester: 8.6-13.7%	1	1	2	5	10	n/a	>10	2	3
			Elsewhere: 3.8%	1	1	5	>10	>10	n/a	>10	4	10
	Hetero sexual	Black African	Male: 4.1%	2	5	4	>10	>10	n/a	>10	4	10
			Female: 7.1%	n/a	n/a	3	10	10	10	>10	2	5
		Other ethnicity	Male/Female: 0.06%	>10	>10	>10	>10	>10	>10	>10	>10	>10
	PWID	Scotland	Overall: 2.3%	3	10	10	>10	>10	>10	>10	5	10
			Greater Glasgow & Clyde: 4.8%	2	4	4	10	>10	>10	>10	4	10
			Lothian: 0.0%	>10	>10	>10	>10	>10	>10	>10	>10	>10
			Rest of Scotland: 0.5%	10	>10	>10	>10	>10	>10	>10	>10	>10

NB: In Scotland in 2017 the only new HIV diagnoses in PWID were in GGC & Lanarkshire.

3.5 *Special situations where it is appropriate to prescribe PEPSE despite calculated risk*

- Sexual assault, involving female patient, receptive anal sex or traumatic vaginal sex, where the source is from a region of high HIV prevalence (traumatic intercourse may increase transmission rates).
- Extreme anxiety from the patient (prescribe PEPSE and refer to sexual health clinic for further discussion).

4 Giving HIV PEPSE

- Provide 7-day PEPSE pack if indicated:
  - Emtricitabine/Tenofovir 200/245mg one tablet daily
  - Raltegravir 400mg twice daily.
- This is a starter pack: full treatment course is 28 days.
- Patient should be advised to seek review at CSHC within 3 days.
- Pregnant women: There is limited experience of using PEPSE in this patient group, but nominally PEPSE appears to be well-tolerated and safe.

4.1 Extending PEPSE

If high-risk sex occurs during the last 2 days of the PEPSE course, extend the course for 48h after the exposure.

4.2 Missed doses

Time since last dose	Recommendation	Comment
<24h	Take missed dose immediately; take subsequent doses at usual time	Reinforce importance of adherence; re-evaluate motivation to continue PEPSE
24-48h	Do not take any additional or missed dose; Continue PEPSE	
>48h	Recommend stopping PEPSE	

4.3 Adverse effects and interactions

Common adverse effects (may affect >10% patients)

- Nausea, vomiting, diarrhoea
- Headache
- Dizziness
- Rash
- Feeling weak

Drug-specific concerns:

- Emtricitabine/tenofovir
  - Renal Impairment: If baseline CrCl <50 mL/min (eGFR <50), consider if the benefits of PEPSE outweigh the risks
- Raltegravir
  - Avoid Cytochrome P450 enzyme inducing medication (e.g. Rifampicin)
  - Do not take multivitamins/antacids containing Calcium, iron, magnesium or aluminium at the same time as Raltegravir (limits absorption; leave 4h either side)

5 Follow Up

This is done at Chalmers Sexual Health Clinic. Preferably the patient will be told to telephone CSHC to make an appointment within 3 days of being prescribed PEPSE. They can also make use of the walk-in clinic.

- Web: www.lothiansexualhealth.scot.nhs.uk
- Email (Health professionals only): Chalmers.ClinicalAdv@nhslothian.scot.nhs.uk
- Telephone: 0131 536 1070
- Urgent care Clinic 0830-1000, Mon-Fri

6 Hepatitis B PEPSE

All cases of sexual exposure (condomless sex) should receive the first dose of a course of vaccination unless the patient is known to be Hepatitis B immune.

Source HBV Status	Patient Vaccination status	Recommendation
Positive (HBV sAg +ve)	Vaccinated	Single-dose Vaccine (Booster) & consider HBV Ig (within 7d)
	Unvaccinated	HBV Vaccination course & HBV Ig (within 7d)
Unknown	Vaccinated	Single-dose Vaccine (Booster)
	Unvaccinated	HBV Vaccination course

- **All cases** should receive the first vaccination or booster of Hepatitis B vaccine.
- Baseline Bloods:
  - Patient immunised HBsAb – check titre
  - Patient not immunised HBsAg – check if already infected
- Vaccination can be beneficial up to 6 weeks after exposure.
- Hepatitis B immunoglobulin is indicated if the source is known to be an infectious hepatitis B carrier (defined as HBsAg positive), unless the patient's anti-HBs titre is known to be >10 IU/ml).

7 Hepatitis C

There is no PEPSE available for Hepatitis C.

8 Further information

- Drug interactions: www.hiv-druginteractions.org
- 2015 BASHH guidelines: https://www.bashhguidelines.org/media/1027/pepse-2015.pdf
- Patient information leaflet: https://www.bhiva.org/file/ieJHUmCnjsWIM/PEP-HIVPA-leaflet_Oct_2014.docx