BRITISH COLUMBIA
CENTRE *for* EXCELLENCE
in HIV/AIDS
EDUCATION & TRAINING

Module 3:
HIV Exposure in Sexual Assault

Tracy A. Pickett

MD, MForensicMed, FRCPC, FFCFM (RCPA)

Faculty Disclosure

- **Faculty:** Dr. Tracy Pickett

- **Relationships with commercial interests:**
  - **Grants/Research Support:** None to disclose
  - **Speakers Bureau/Honoraria:** None to disclose
  - **Consulting Fees:** None to disclose
  - **Other:** None to disclose

- Antiretroviral medications are not approved by Health Canada as post-exposure prophylaxis (PEP) for the prevention of HIV. Recommendations for HIV PEP are considered "off-label" use of medications.

Disclosure of Commercial Support

- This program has not received any financial or in-kind commercial support.

- **Potential for conflicts of interest:**
  - No commercial organization has supported this program.

Mitigating Potential Bias

- The content of the presentation is consistent with guidelines developed by the BC-CfE Post-Exposure Prophylaxis (PEP) Committee, a sub-committee of the Committee for Drug Evaluation and Therapy (CDET)

- Generic names of medications are used in place of brand names

Learning Objectives

On completion of this module, participants will develop an understanding of:

- Basic medical care for an adolescent or adult patient following sexual assault/blood and body fluids (BBF) exposure
- Relative risk of acquiring HIV following sexual assault
- Risk stratification for PEP following sexual assault
- Limitations of PEP treatment regimen as particularly related to sexual assault

BBF, blood and body fluids

For guidance regarding management of sexual assault of a child <13 years, please consult BC Children's Hospital Emergency Department.

Overview of Sexualized Violence

Statistics vary according to source, however, it is estimated that:

- Worldwide, 1/3 of women and 1/6 of men have experienced sexual violence in their lifetime
- Estimated that only 5% of survivors report to police

Sources:

WHO factsheet, Nov 2016
SACHA – Sexual Assault Centre, Hamilton, 2017
Conroy S & Cotter A. Statistics Canada; 2017.

HIV Risk: What do we know?

Estimated probability of HIV following a single exposure, where the source is known to be HIV positive and the receiving individual is negative:

Exposure	Estimated Risk (95% CI) per 10,000 acts	Estimated risk per act/event
Penile-vaginal intercourse (risk to insertive partner)	4 (1-14)	0.04% or 1 in 2500
Penile-vaginal intercourse (risk to receptive partner)	8 (6-11)	0.08% or 1 in 1250
Anal intercourse (risk to insertive partner)	11 (4-28)	0.11% or 1 in 900
Anal intercourse (risk to receptive partner)	138 (102-186)	1.38% or 1 in 72
Oral intercourse (risk to either partner)	Low (0-4)	Low

Sexual assault may produce more injuries, potentially resulting in a greater risk of HIV transmission

CI, confidence interval

Not all sexual assault patients have visible injuries.

Medical Care Post Recent Sexual Assault

- Provide pregnancy prophylaxis, if relevant
- Sexually transmitted infection (STI) considerations:
  - Prophylactic treatment for gonorrhea and chlamydia, possibly syphilis in higher risk population (i.e. male victims)
- Assessment of hepatitis B immunization status:
  - Hep B Immune Globulin and/or Hep B vaccine booster as necessary
- Assessment of tetanus immunization status:
  - Tetanus Immune Globulin and/or tetanus booster as necessary
- HIV PEP assessment: see relative risk assessment;
  - Will need baseline bloodwork if started on PEP
- Treatment of physical injuries and emotional support
- → and necessary follow-up regarding the above agents / considerations

STI, sexually transmitted infection

Medical care post sexual assault is multifactorial, patient-centred, and spans direct physical and medical care as well as addressing the patient's emotional needs and follow-up. Recent sexual assault is defined as occurring within the previous 7 days.

Suggested Follow-up for Medical Care Post-Sexual Assault

Suggested follow-up:

- 2 weeks and 4 weeks
  - Urine pregnancy test if relevant;
  - CBC, creatinine, GFR if started on PEP and baseline abnormal
- 3, 6, and 12 weeks: HIV test, hepatitis B titre, hepatitis C antibody test, syphilis test
- STI testing anytime if symptomatic discharge, pain, or development of lesions or blisters

CBC, complete blood count;
GFR, glomerular filtration rates

Prior to Initiating PEP

Prior to initiating PEP, draw baseline:

- HIV Ag/Ab
- Complete blood count (CBC), creatinine, estimated glomerular filtration rate (eGFR)
- Hepatitis serology (anti-HCV, HBsAG, anti-HBc total, and anti-HBs)
- Quantitative bHCG (pregnancy) as indicated

HIV Ag/Ab, HIV antigen/antibody;
Anti-HCV, hepatitis C antibody;
HBsAG, hepatitis B surface antigen;
Anti-HBc total, anti-hepatitis B core total antibodies;
Anti-HBs, hepatitis B surface antibody

Sources:
BC CDC Communicable Disease Control Manual, 2016
BC-CfE PEP Guidelines, May 2017

Follow-up Medical Care Post-Sexual Assault

	Initial Assess.	2 weeks	3 weeks	4 weeks (1 month)	6 weeks	12 weeks (3 months)	6 months
Pregnancy test	✓	✓		✓			
Hep B immunization (if primary vaccination started)	✓			✓			✓
Tetanus immunization (if primary vaccination started)	✓			✓			✓
HIV test, Hep serology, & syphilis test	If PEP started		✓		✓	✓	
CBC, Creatinine, & GFR (if started on PEP and BW at baseline abnormal)	✓ If PEP started	✓ If PEP started		✓ If PEP started			
Testing & Treatment for STI's	Anytime symptoms develop						

STI, sexually transmitted infection;
GFR, glomerular filtration rate

Not all aspects will be relevant in all cases.

Hepatitis serology includes: hepatitis C antibody, hepatitis B surface antigen, anti-hepatitis B core total antibodies, and hepatitis B surface antibody.

HIV Post-Exposure Prophylaxis (PEP)

Timing of Treatment:

- Offered to all patients who meet criteria for PEP and present within 72 hours of assault
- If the exposure was >72 hours, follow-up HIV Ag/Ab testing is recommended

Benefits of Treatment/Rationale:

- Evidence suggests efficacy after needlestick exposure and in maternal-fetal transmission (efficacy approaches 100%)

Problem:

- There are no data on the effectiveness of PEP following sexual assault

HIV Ag/Ab, HIV antigen/antibody

Assessment and Treatment: Considered Low HIV Transmission Risk

Source: No reason to presume a source is either HIV positive or at high risk for HIV

Setting: Setting not considered high risk for HIV

Type of Exposure: No anal or vaginal penetration, or only oral/digital penetration

Recommend: PEP not indicated; counsel patient about low risk of HIV Transmission

Considered LOW risk for HIV transmission: Vaginal/anal penetration may have occurred but the source is known to be HIV negative or there is no reason to believe the source is HIV positive or in a high risk group (person who injects drugs or MSM) and the setting in which the assault took place is not considered high risk for HIV.
Oral/digital exposure alone is considered to be negligible risk regardless of HIV status of source.
PEP is not indicated for a patient assessed to be low risk for HIV exposure - Provide counselling and information to reduce anxiety. Recommend HIV test at one & three months post sexual assault.

Assessment and Treatment: Considered High HIV Transmission Risk

Source: Known to be HIV positive or known man who has sex with men (MSM) or person who injects drugs (PWID); or known multiple assailants, OR

Setting: Known injection drug use or anywhere drug paraphernalia is present

AND

Type of Exposure:

Anal or vaginal or unknown exposure

Recommended PEP treatment:

Tenofovir DF, Lamivudine, and Raltegravir (all 3) x 28 days

Unknown exposure would include any episode where a sexual assault was suspected to have occurred while the patient had a decreased level of consciousness or was unaware of what happened.

Current BC PEP regimen (5 day starter kit)

Current BC PEP regimen in adolescents/adults consists of 3 agents:

- Tenofovir DF 300mg once daily
- Lamivudine 150mg twice a day or 300mg once daily
- Raltegravir 400mg twice a day

Arrange for follow-up with the patient's primary care provider who will consult the BC-CfE Pharmacy for the full 28 day course of PEP.

Sources:
BC CDC Communicable Disease Control Manual, 2016
BC-CfE PEP Guidelines, May 2017

Risks of HIV Post-Exposure Prophylaxis

- The majority of patients seen after a sexual assault have an assailant with unknown risk factors
- Risk of HIV when assailant is unknown:
  - Cannot be quantified, but felt to be negligible in the province of BC*
- If patient presents following sexual assault outside of British Columbia, consult Centre for Excellence for guidance on PEP:
  - **REACH Line: 604-681-5748 (Vancouver); 1-800-665-7677 (Outside Vancouver)**
  - **BC-CfE Pharmacy: 1-888-511-6222**

Source:
*BC-CfE PEP Guidelines, May 2017, Appendix 1, p.23.

Difficulties of HIV PEP
(with particular reference to sexual assault)

- Taxing regimen and poor compliance, complicated by the added psychosocial burden of potential HIV exposure within the context of a sexual assault
- Fear of disclosure of potential exposure to HIV/sexual assault to current partner
- Arranging the final 23 days of PEP can be stressful for patient
- Follow-up testing for HIV at 3, 6, and 12 weeks post sexual assault (or after end of PEP) can be challenging, especially when combined with other medical follow-up (e.g. pregnancy test, hepatitis immunization, and emotional sequela)

- **Many patients shun health care post-sexual assault**

Contraindications and Potential Adverse Effects (See Module 3)

- Consult BC-CfE pharmacy (**1-888-511-6222**) if patient has documented chronic kidney disease and needs to start PEP
- If the exposed person is pregnant, contact the BC-CfE pharmacy for advice; however, in a significant exposure the 5-day PEP kit should be initiated as soon as possible
- Potential for drug interactions (low with current PEP regimen - tenofovir DF, lamivudine, and raltegravir)

Emotional Response following Sexual Assault

- It is common to have a range of emotions and feelings after a traumatic experience. Being sexually assaulted is a traumatic experience.
- Each individual responds to and deals with sexual assault in different ways, including feelings of anxiety, self-blame, depression, anger, shame, confusion, denial, sadness, consuming thoughts or numbness.
  - The survivor may express these feelings by being tense, by crying, or by talking, or may try to hide feelings and appear calm or withdrawn. Some survivors are afraid to be alone, others are afraid to go out or to be in groups.
- Concern regarding health problems due to the sexual assault and stress may affect sleeping habits, appetite, and sense of safety and well-being.
- **These are all common responses to sexual assault.**

Adapted from: SAS, BC Women's Hospital + Health Centre, and WAVAW, Information for Survivors of Sexual Assault, 2017.

Practical Tips for Emotional Support: What can the Survivor do?

- Make decisions and choices they feel comfortable with to regain some control of their life
- Try to find activities or places that feel safe and comfortable
- Talking to a trusted friend, a support worker, or a counselor may help clear up confusing feelings and thoughts
- Explore ways to express feelings and be mindful – writing, meditation, activity – either privately or shared with a trusted friend
- Sometimes memories of the sexual assault, or frustration of not knowing what happened, do go away and then come up again; these feelings will lessen as time goes on and as one heals
- Friends and family may be upset and angry: encourage them to find someone else to talk to about their reactions

Adapted from: SAS, BC Women's Hospital + Health Centre, and WAVAW, Information for Survivors of Sexual Assault, 2017.

References

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End of Module 3