



Body System: Infectious Disease			
Session Topic: HIV Pre-exposure Prophylaxis and Post-Exposure Prophylaxis in Primary Care			
Educational Format		Faculty Expertise Required	
REQUIRED	Interactive Lecture	Expertise in the field of study. Experience teaching in the field of study is desired. Preferred experience with audience response systems (ARS). Utilizing polling questions and engaging the learners in Q&A during the final 15 minutes of the session are required.	
OPTIONAL	Problem-Based Learning (PBL)	Expertise teaching highly interactive, small group learning environments. Case-based, with experience developing and teaching case scenarios for simulation labs preferred. Other workshop-oriented designs may be accommodated. A typical PBL room is set for 50-100 participants, with 7-8 each per round table. <u>Please describe your interest and plan for teaching a PBL on your proposal form.</u>	
Professional Practice Gap		Learning Objective(s) that will close the gap and meet the need	Outcome Being Measured
<ul style="list-style-type: none"> • Post-exposure HIV prophylaxis (PEP) can reduce risk of HIV acquisition. Family physicians are untrained in providing PEP to patients who would qualify for it. • Pre-exposure prophylaxis (PrEP) is indicated for certain groups at high-risk for HIV acquisition. Family physicians are untrained to assess for and provide PrEP. 		<ol style="list-style-type: none"> 1. Outline the 2016 updated CDC guidelines regarding non-occupational post-exposure prophylaxis for HIV prevention. 2. Outline the 2014 US Public Health Service clinical practice guidelines on pre-exposure prophylaxis for the prevention of HIV infection. 3. Develop a strategy for screening of patients in the ED and urgent care settings for eligibility for post-exposure prophylaxis to prevent HIV infection. 4. Develop strategy and knowledge base for either providing PrEP care in family medicine clinic or identifying and referring to local resources for PrEP care for patients in high risk groups for HIV acquisition. 	Learners will submit written commitment to change statements on the session evaluation, indicating how they plan to implement presented practice recommendations.
ACGME Core Competencies Addressed (select all that apply)			
X	Medical Knowledge	X	Patient Care
X	Interpersonal and Communication Skills		Practice-Based Learning and Improvement
	Professionalism		Systems-Based Practice
Faculty Instructional Goals			



Faculty play a vital role in assisting the AAFP to achieve its mission by providing high-quality, innovative education for physicians, residents and medical students that will encompass the art, science, evidence and socio-economics of family medicine and to support the pursuit of lifelong learning. By achieving the instructional goals provided, faculty will facilitate the application of new knowledge and skills gained by learners to practice, so that they may optimize care provided to their patients.

- Provide up to 3 evidence-based recommended practice changes that can be immediately implemented, at the conclusion of the session; including SORT taxonomy & reference citations
- Facilitate learner engagement during the session
- Address related practice barriers to foster optimal patient management
- Provide recommended journal resources and tools, during the session, from the American Family Physician (AFP), Family Practice Management (FPM), and Familydoctor.org patient resources; those listed in the References section below are a good place to start
 - Visit <http://www.aafp.org/journals> for additional resources
 - Visit <http://familydoctor.org> for patient education and resources
- Provide recommendations regarding the 2016 updated CDC guidelines regarding non-occupational post-exposure prophylaxis for HIV prevention.
- Provide recommendations regarding the 2014 US Public Health Service clinical practice guidelines on pre-exposure prophylaxis for the prevention of HIV infection.
- Provide strategies and resources for developing a strategy for screening of patients in the ED and urgent care settings for eligibility for post-exposure prophylaxis to prevent HIV infection.
- Provide strategies and resources for developing strategy and knowledge base for either providing PrEP care in family medicine clinic or identifying and referring to local resources for PrEP care for patients in high risk groups for HIV acquisition.

Needs Assessment

Human immunodeficiency virus (HIV) post-exposure prophylaxis (PEP) is commonly prescribed in emergency departments. PEP was originally designed to prevent HIV infection after an exposure and is one of a number of strategies for HIV prevention. The first set of guidelines established by the Centers for Disease Control and Prevention (CDC) was developed in 1990 to address the use of antiretroviral agents after occupational HIV exposure. In 2005, use of PEP has been extended to include non-occupational exposures, including following sexual contact or injection drug use. PEP guidelines exist for persons at risk for HIV due to non-occupational exposure.¹ Most recently, the CDC has issued updated guidelines on the use of antiretroviral PEP and other aspect of case management for persons with isolated exposure outside of health care settings to blood, genital secretions, or other potentially infectious body fluids that might contain HIV.^{2,3}

Pre-exposure prophylaxis is another strategy used by identifying at risk individuals and intended to prevent HIV prior to an actual exposure.⁴ Studies demonstrated a 44–75% decrease in HIV acquisition among sexually active adults taking oral PrEP.⁵



Practice Gaps

Non-occupational exposure PEP (nPEP) guidelines were established in 2005 for persons at risk for HIV due to non-occupational exposure,¹ but remain an greatly underutilized as a prevention strategy. In some cases, the full implementation of the guidelines remains incomplete with regard to follow-up care.⁶ Insufficient awareness of this intervention by those at highest risk may be one component affecting utilization, and family physicians in family medicine clinics, as well as in emergency and urgent care settings are in a pivotal position to educate these patients and facilitate adherence to this prevention strategy. The uptake of pre-exposure prophylaxis has also been shown to be low.⁴ In May 2014, the US Public Health Service released a new PrEP clinical practice guideline, “Preexposure Prophylaxis for the Prevention of HIV Infection in the United States-2014” that superseded the previous CDC interim PrEP guidance.⁵ Although many clinicians report willingness to provide PrEP, few have prescribed PrEP in clinical practice. Provider comfort and skills in HIV risk assessment are suboptimal, which could limit identification of individuals who are most likely to benefit from PrEP use.⁷ 7 In addition, some family physicians work in urban areas where PrEP care is offered in local public health/HIV clinic setting and maybe a source to refer patients to if the provider does not feel comfortable providing and monitoring PrEP.

In 2016, the CDC updated the previous guidelines incorporating evidence regarding the use of non-occupational PEP. New features of the guidelines include the use of rapid antigen/antibody (Ag/Ab) combination HIV tests, revised preferred and alternative 3-drug antiretroviral nPEP regimens, an updated schedule of laboratory evaluations of source and exposed persons, updated antimicrobial regimens for prophylaxis of sexually transmitted infections and hepatitis, and a suggested procedure for transitioning patients between nPEP and HIV pre-exposure prophylaxis as appropriate.^{2,8}

The observed variability in clinician practice with regard to oral PrEP and nPEP may be reduced through interventions to educate clinicians about the content and rationale for guideline recommendations. Family physicians require continuing medical education to provide the such information in order to improve guideline uptake and prevention of the spread of HIV infection.⁹

Physicians may improve their care of patients who are at risk of contracting HIV by engaging in continuing medical education that provides practical integration of current evidence-based guidelines and recommendations into their standards of care, including, but not limited to the following:^{2,10-12}

- For some groups of patients at greater risk of HIV infection (e.g., serodiscordant partners, men who have sex with men and engage in high-risk behaviors, persons with multiple concurrent sex partners, persons who exchange sex for money), preexposure prophylaxis decreased the risk of acquiring HIV infection (number needed to treat [NNT] = 56). (Strength of Recommendation: C, based on consensus, disease-oriented evidence, usual practice, expert opinion, or case series.)
- Offer vaccinations for hepatitis A and B viruses (if not previously vaccinated) and for human papillomavirus for all MSM through 26 years of age.



- Offer meningococcal vaccine for MSM with at least one other risk factor (e.g., medical, occupational, lifestyle).
- Consider preexposure prophylaxis for MSM at very high risk of contracting human immunodeficiency virus because of factors such as multiple or anonymous sex partners.
- Consider postexposure prophylaxis for MSM who report a recent high-risk exposure to human immunodeficiency virus.
- Screen MSM for sexually transmitted infections at least annually or more often as necessitated by level of risk.
- Relative to CDC Guidelines for Postexposure Prophylaxis After
 - Evaluate exposures promptly and initiate nPEP as soon as possible after exposure.
 - Do not delay nPEP pending HIV test results or source person risk factor assessment.
 - Prescribe three-drug nPEP regimens.
 - Test for other sexually transmitted infections.
 - Offer PrEP to those who continue to be at risk.
- Selecting appropriate patients to receive postexposure prophylaxis should be based on the assessment of the type of exposure, the status of the source patient, and the status of the exposed person.
- Postexposure prophylaxis for common infectious diseases should be implemented according to published guidelines. For complex cases, consider consulting persons who have experience in infectious diseases or infection control.
- For maximal effectiveness, postexposure prophylaxis for common infectious diseases should be started as early as possible and within the recommended period of administration.
- After a patient has been exposed to bloodborne pathogens, the physician should obtain baseline testing for human immunodeficiency virus, hepatitis B virus, and hepatitis C virus antibodies, and repeat testing in six weeks, three months, and six months.

These recommendations are provided only as assistance for physicians making clinical decisions regarding the care of their patients. As such, they cannot substitute for the individual judgment brought to each clinical situation by the patient's family physician. As with all clinical reference resources, they reflect the best understanding of the science of medicine at the time of publication, but they should be used with the clear understanding that continued research may result in new knowledge and recommendations. These recommendations are only one element in the complex process of improving the health of America. To be effective, the recommendations must be implemented. As such, physicians require continuing medical education to assist them with making decisions about specific clinical considerations.

Physicians should be prepared to counsel patients regarding the safety and efficacy of PrEP, especially in light of a case report of a patient who acquired a highly drug-resistant HIV strain despite being adherent to PrEP.¹³

Resources: Evidence-Based Practice Recommendations/Guidelines/Performance Measures

- CDC Releases Updated Guidelines for Postexposure Prophylaxis After Sexual, Injection Drug, or Other Nonoccupational Exposures to HIV²
- Postexposure Prophylaxis for Common Infectious Diseases¹⁰



- Antiretroviral preexposure prophylaxis for preventing HIV infection in high-risk individuals¹¹
- Preventive Health Care for Men Who Have Sex with Men¹²
- Familydoctor.org - Occupational Exposure to HIV: Advice for Health Care Workers (patient education)¹⁴
- Familydoctory.org - HIV and AIDS | Overview (patient education)¹⁵

References

1. Alves M, Janneau-Magrino L, Legendre N, Pateron D, Guidet B, Yordanov Y. Human immunodeficiency virus post-exposure prophylaxis: primum non nocere. *The American journal of medicine*. 2015;128(4):e3-4.
2. Goldschmidt RH. CDC Releases Updated Guidelines for Postexposure Prophylaxis After Sexual, Injection Drug, or Other Nonoccupational Exposures to HIV. *American family physician*. 2016;94(5):392-393.
3. Beekmann SE, Henderson DK. Prevention of human immunodeficiency virus and AIDS: postexposure prophylaxis (including health care workers). *Infectious disease clinics of North America*. 2014;28(4):601-613.
4. Siemieniuk RA, Sivachandran N, Murphy P, et al. Transitioning to HIV Pre-Exposure Prophylaxis (PrEP) from Non-Occupational Post-Exposure Prophylaxis (nPEP) in a comprehensive HIV prevention clinic: a prospective cohort study. *AIDS patient care and STDs*. 2015;29(8):431-436.
5. Mullins TLK, Lally M, Zimet G, Kahn JA. Clinician attitudes toward CDC interim pre-exposure prophylaxis (PrEP) guidance and operationalizing PrEP for adolescents. *AIDS patient care and STDs*. 2015;29(4):193-203.
6. Fitzpatrick LJ, Egan DJ, Cowan E, et al. Non-occupational Post-exposure Prophylaxis for HIV in New York State Emergency Departments. *Journal of the International Association of Providers of AIDS Care (JIAPAC)*. 2014:2325957414553847.
7. Krakower D, Mayer KH. Engaging healthcare providers to implement HIV pre-exposure prophylaxis. *Current Opinion in HIV and AIDS*. 2012;7(6):593.
8. Smith DK, Grohskopf LA, Black RJ, et al. Antiretroviral postexposure prophylaxis after sexual, injection-drug use, or other nonoccupational exposure to HIV in the United States: recommendations from the US Department of Health and Human Services. *MMWR Recommendations and reports : Morbidity and mortality weekly report Recommendations and reports / Centers for Disease Control*. 2005;54(RR-2):1-20.
9. Krakower DS, Jain S, Mayer KH. Antiretrovirals for primary HIV prevention: the current status of pre-and post-exposure prophylaxis. *Current HIV/AIDS Reports*. 2015;12(1):127-138.
10. Bader MS, McKinsey DS. Postexposure Prophylaxis for Common Infectious Diseases. *American family physician*. 2013;88(1):25-32.
11. Saguil A. Antiretroviral preexposure prophylaxis for preventing HIV infection in high-risk individuals. *American family physician*. 2013;88(3):172-173.



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12. Knight DA, Jarrett D. Preventive Health Care for Men Who Have Sex with Men. *American family physician*. 2015;91(12):844-851.
13. Knox DC, Anderson PL, Harrigan PR, Tan DH. Multidrug-Resistant HIV-1 Infection despite Preexposure Prophylaxis. *The New England journal of medicine*. 2017;376(5):501-502.
14. FamilyDoctor.org. Occupational Exposure to HIV: Advice for Health Care Workers. 2017;
15. FamilyDoctor.org. HIV and AIDS | Overview. 2014;