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Educating the Primary Care Clinician on Preexposure Prophylaxis for Human Immunodeficiency Virus

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Story From the Front Lines

A man in his mid-20s presented to the outpatient clinic requesting testing for sexually transmitted infections (STIs). He reported having multiple male sex partners and engaging in oral and anal (both insertive and receptive) sex with inconsistent condom use. His medical history included an episode of gonorrhea, which was treated. His social history included occasional binge drinking but no injection or noninjection drug use. His vital signs and physical examination findings were within normal limits. Results of STI testing, including for chlamydia, gonorrhea, syphilis, and human immunodeficiency virus (HIV), were all negative. He was counseled on safer sex practices and moderation in alcohol consumption.

The patient returned to clinic 3 months later for repeat STI screening, reporting similar sexual exposures. He again tested negative for STIs, including HIV. He returned 5 months later, reporting ongoing unprotected anal sex, and again requested STI testing. He was counseled on safer sex, and the option of HIV preexposure prophylaxis (PrEP) was discussed. The following day, his HIV antibody test results were found to be positive.

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Teachable Moment

This case illustrates a missed opportunity to prescribe PrEP and demonstrates the importance of primary care clinicians acting as first-line PrEP prescribers. Primary care clinicians must learn to recognize patients at substantial risk for HIV infection and develop a comfort in engaging patients to consider PrEP.

Although the incidence of HIV infections within the United States has declined by nearly 20% over the past decade, there are still an estimated 40 000 new cases per year.¹ The improvement has been largely driven by reductions in infections among people who inject drugs (PWID) and heterosexuals. In contrast, the incidence of HIV infection has risen among men who have sex with men (MSM). In 2010, the Centers for Disease Control and Prevention (CDC) reported that nearly two-thirds of new HIV infections occurred among MSM, disproportionately affecting black and Hispanic MSM.²

PrEP is a novel HIV prevention tool, yet discomfort prescribing PrEP may lead to underutilization. The landmark iPrEx Study³ demonstrated that once-daily doses of emtricitabine–tenofovir disoproxil fumarate (Truvada; Gilead Sciences Inc) reduced the rate of seroconversion by 44% (95% CI, 15%–63%) ($P = .005$) with an absolute risk reduction of 2.2%.³ As a result, Truvada gained US Food and Drug Administration approval in July 2012 for HIV prevention. PrEP is now recommended in certain populations by the CDC and the World Health Organization. Despite this, a recent study of clinicians primarily at academic clinics in California and New York found that among the clinicians who do not treat HIV ($n = 111$), 77% were aware of PrEP, but only 38% were comfortable determining candidacy for PrEP, and a mere 9% had previously prescribed it.⁴

The CDC guidelines indicate that 3 groups of patients should be considered for PrEP: MSM, high-risk heterosexuals, and PWIDs. A summary of recommended indications for PrEP is provided in the Box.

Prior to initiating PrEP, it is important to anticipate patient willingness to adhere to the medication regimen and follow-up protocol. Specific laboratory testing should be performed, including for HIV, hepatitis B virus (HBV) (including surface antigen, surface antibody, and core antibody), hepatitis C virus, renal function, and pregnancy. All patients should be screened for symptoms of acute HIV infection, including HIV RNA testing if indicated. If adherence is expected to be high and laboratory findings are negative for HIV, HBV surface antigen, and pregnancy (and creatinine clearance is >60 mL/min), then PrEP may be prescribed. Certain precautions must be considered in individuals with chronic HBV infection because tenofovir and emtricitabine are active against HBV. However, a recent study demonstrated the risk of HBV flare after PrEP discontinuation to be low in individuals with normal liver function test results prior to PrEP initiation, such that PrEP should be considered in this population.⁵

One Truvada tablet daily (emtricitabine, 200 mg, and tenofovir, 300 mg) should be prescribed at a maximum of 3-month intervals, allowing for the close follow-up recommended by the CDC. Each visit should include an assessment of medication adverse effects and adherence, in addition to repeat testing for HIV, renal function, and pregnancy.

Testing for chlamydia, gonorrhea, syphilis, and HIV should be conducted at least every 6 months. It is important to note that PrEP is intended to be only 1 part of a comprehensive HIV prevention plan, including safer sex counseling, condom use, STI screening and treatment, and syringe exchange or addiction treatment as indicated. Comprehensive clinical guidelines on PrEP can be accessed at <http://www.cdc.gov/hiv/pdf/prepguidelines2014.pdf>. Furthermore, phone consultation is available through the University of California, San Francisco Clinician Consultation Center at <http://nccc.ucsf.edu/clinician-consultation/prep-pre-exposure-prophylaxis/>.

In conclusion, primary care clinicians must recognize their role as first-line PrEP prescribers. It is incumbent on primary care clinicians to identify patients at high risk for HIV, be comfortable prescribing PrEP, and be familiar with appropriate follow-up. Primary care clinicians are champions of disease prevention, and we have a responsibility to become comfortable with PrEP as a novel tool to help prevent new HIV infections.

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Table 1

Summary of Recommended Indications for HIV Preexposure Prophylaxis.

Men Who Have Sex with Men		Heterosexuals		People Who Inject Drugs	
•	Any male sex partners in the past 6 months	•	Unprotected sex with 1 or more partners of unknown HIV status who are at substantial risk of HIV infection (i.e. bisexual men, sex workers, or people who inject drugs)	•	Any injection drug use that was not prescribed by a provider in the past 6 months
•	Any unprotected anal sex (receptive or insertive) in the past 6 months			•	Any sharing of injection or drug preparation equipment in the past 6 months
•	Any STI in the past 6 months			•	Enrollment in an addiction treatment program (i.e. methadone, buprenorphine, or Suboxone [buprenorphine and naloxone; Indivior Inc] program) in the past 6 months
•	Commercial sex worker	•	Bisexual men with any unprotected anal sex or STI in the past 6 months		
•	In a sexual relationship with a known HIV-positive partner	•	Commercial sex worker		
		•	In a sexual relationship with a known HIV-positive partner	•	Risk of sexual acquisition should be considered and stratified based upon sexual behavior

Abbreviations: HIV, human immunodeficiency virus; STI, sexually transmitted infection.