

An update on expanding HIV preexposure prophylaxis

Jonathan Baker, MPAS, PA-C, DFAAPA; Joanne Rolls, MPAS, MEHP, PA-C

ABSTRACT

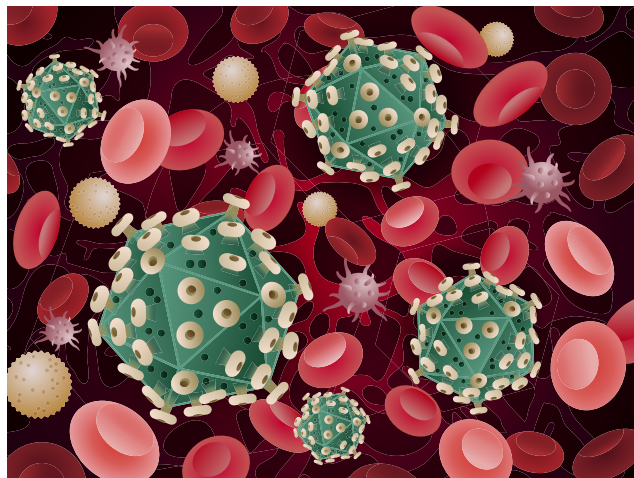
HIV continues to affect certain populations disproportionately, including sexual and gender minorities, racial/ethnic minorities, and populations with limited resources in southern US states. New CDC guidelines include a recommendation to discuss HIV preexposure prophylaxis (PrEP) with all sexually active patients, which is likely to expand use. The guidelines also include important changes in PrEP monitoring and address PrEP telehealth. The FDA approved the first non-oral PrEP, long-acting injectable cabotegravir, in late 2021. However, PrEP continues to be underused. This article describes how to better employ PrEP in light of these recent significant changes.

Keywords: HIV, prophylaxis, sexually transmitted infection, emtricitabine, cabotegravir, PrEP

Learning objectives

- Describe the risk factors for HIV transmission and indications for PrEP.
- Explain the appropriate initiation, monitoring, and follow-up of patients taking PrEP.
- Recognize long-acting injectable cabotegravir as a novel PrEP option.
- Summarize differences in use among available PrEP agents.

In late 2021, the CDC changed the way clinicians, including physician associates/assistants (PAs) and NPs, should think about HIV prevention by asserting that all sexually active adults and adolescents should receive information about HIV preexposure prophylaxis (PrEP) and its role in preventing HIV.¹ The CDC did not limit this guideline based on age, relationship status, number of sexual partners, or barrier protection use. PrEP use has



significantly increased among the 1.2 million people for whom PrEP was recommended according to 2015 guidelines, from use among only 3% in 2015 to 25% in 2020.^{1,2} Since this time, the new CDC guidelines have led to an increase in the number of people for whom PrEP is indicated. This leaves significant room for improvement in PrEP prescribing and uptake.^{1,2}

From 2015 to 2019, the rate of HIV diagnosis in the United States decreased overall after years of plateaus. This is largely attributed to increased screening, PrEP implementation, and better access to safe and effective antiretroviral therapy that reduce the risk of transmission from people living with HIV. However, rates have increased among certain populations, including transgender patients, Native Americans/Alaska Natives, men who have sex with men (MSM), and patients age 55 years and older. Significant increases were seen in the Midwest. In the South, most HIV infections among MSM disproportionately affected racial and ethnic minorities. The opioid epidemic has led to an increase in people who inject drugs and consequently an increased number of HIV diagnoses among this group.³

In 2019, the US Preventive Services Task Force (USPSTF) issued a Grade A recommendation for PrEP use among adults and adolescents at risk for HIV.⁴ Based on this recommendation, the Department of Health and Human Services (HHS) determined that most commercial insurers and government payers (Medicaid and Medicare) are required to provide PrEP medication, related laboratory

Jonathan Baker is operation director of clinical research at Laser Surgery Care in New York, N.Y. **Joanne Rolls** is a clinical associate professor in the PA program at the University of Utah in Salt Lake City. The authors have disclosed no potential conflicts of interest, financial or otherwise.

DOI:10.1097/01.JAA.0000911184.87186.0f

Copyright © 2023 American Academy of PAs

Key points

- Clinicians should be aware of new CDC guidelines for PrEP, which include discussing PrEP with all sexually active patients and which provide updates on drug initiation and monitoring.
- HIV continues to disproportionately affect vulnerable populations including sexual, gender, racial, and ethnic minorities.
- PAs play an essential role in HIV prevention because prescription antiretrovirals are increasingly used for prevention.
- Injectable cabotegravir provides more diverse options for prevention alongside traditional oral PrEP.

tests, and clinical visits without incurring out-of-pocket costs (such as copays and deductibles).⁵

RESPONSIBILITY TO PRESCRIBE PREP

Recent CDC recommendations for HIV prevention focus on the use of prescribed antiretroviral drugs, which is limited to a few professions with prescriptive authority, including PAs.¹ PAs practice in every specialty, in every setting, and in every part of the United States. PrEP most typically aligns with primary care, internal medicine, and family practice, and rarely requires a clinician with specific infectious diseases training or experience. With this broad scope of practice, PAs in other settings, including in pediatrics, gynecology, and other specialist settings, should prescribe PrEP when appropriate. Clinicians may have personal and professional barriers to prescribing PrEP, including discomfort with sexual history-taking and HIV testing, or unwillingness to prescribe PrEP.⁶ Of note, PAs in states with prescriptive authority not restricted by physician supervision are twice as likely to prescribe PrEP.⁷

ABOUT PREP

The FDA has approved three drugs for HIV PrEP:

- oral daily emtricitabine 200 mg-tenofovir disoproxil fumarate 300 mg (F/TDF)
- oral daily emtricitabine 200 mg-tenofovir alafenamide 25 mg (F/TAF)
- long-acting injectable cabotegravir (CAB-LA) 600 mg.

F/TDF and F/TAF are combination nucleoside reverse transcriptase inhibitors (NRTIs) of emtricitabine in a fixed combination with different prodrugs of tenofovir. CAB-LA is an integrase strand-transfer inhibitor. F/TDF, F/TAF, and CAB-LA are approved for HIV treatment in combination with other drugs; none constitute effective antiretroviral therapy on their own for people living with HIV.^{1,8-10}

PrEP is recommended for adults and adolescents (weighing at least 35 kg [77 lb]) for the prevention of sexual transmission of HIV among those with a history of anal or vaginal sex in the past 6 months and any of the following:

- HIV-positive sexual partner (especially if the partner has an unknown or detectable viral load)
- Bacterial sexually transmitted infection (STI) in past 6 months (syphilis or gonorrhea; or chlamydia among MSM and transwomen who have sex with men)
- History of inconsistent or no condom use with sexual partner(s).

PrEP is recommended for people who inject drugs who have an injecting partner living with HIV or who share injection equipment. People who inject drugs may have sexual risk factors for HIV that should be considered in determining appropriate PrEP implementation.¹

Clinicians and patients can struggle with discussions about sex and injection drugs; ensure that patients understand risk factors for HIV acquisition. The CDC recommends providing PrEP to patients who request it even if they do not disclose specific risk factors.^{1,11}

LONG-ACTING INJECTABLE CABOTEGRAVIR

In December 2021, CAB-LA became the first FDA-approved IM injection for use among adults and adolescents (weighing at least 35 kg [77 lb]) to reduce the risk of sexual acquisition of HIV. CAB-LA 600 mg given IM every 8 weeks was found to be safe and effective among MSM and transwomen who have sex with men.¹⁰ Fifty-two incident HIV seroconversions occurred among participants: 13 in the CAB-LA group (incidence, 0.41 per 100 person-years) and 39 in the F/TDF group (incidence, 1.22 per 100 person-years). Among participants with data supporting good PrEP adherence, four seroconversions occurred among CAB-LA arm participants and two occurred among F/TDF arm participants. Good PrEP adherence was defined by doses taken on schedule and laboratory assays demonstrating expected plasma drug concentrations. In seroconversions among CAB-LA arm participants, delays in HIV detection and integrase strand-transfer inhibitor resistance were noted. Similar sexual behavior and rates of STIs were seen when comparing the study arms, indicating similar risk profiles.¹⁰ An additional trial among cisgender women demonstrated superior efficacy of CAB-LA over F/TDF; none of the seroconversions in this trial were among participants with good adherence.¹² Trials among adolescents are under way.

The most common reported adverse reaction to CAB-LA is injection site reaction. This occurred among most participants, with 60.8% reporting pain and 23.7% reporting tenderness; however, only 2.4% of participants who received CAB-LA discontinued the medication due to injection site reactions.¹⁰ Participants receiving CAB-LA also were more likely to report headache, pyrexia, fatigue, back pain, myalgia, and rash.¹⁰ Overall, adverse reactions were similar in rate and severity between the CAB-LA and F/TDF arms (Table 1).¹⁰

The initial dose of CAB-LA should be followed by a second dose 4 weeks later, and then dosing shifted to every 8 weeks. CAB-LA cannot be reversed and is not known to

induce any life-threatening adverse reactions, but an oral trial of cabotegravir (30-mg tablet daily) for 4 weeks can be used to assess tolerability.¹³ Oral cabotegravir should only be used for induction and is not an appropriate option for ongoing PrEP.¹ Recommendations are forthcoming, but in the clinical trial, participants who missed a dose by 14 days or more underwent the induction with two doses 1 month apart.¹⁰

Eight weeks after the final dose of cabotegravir, drug levels inadequate for prevention will continue to be present, varying in duration over several months based on factors including weight and metabolism.¹⁰ HIV seroconversion during this “tail” could lead to selection for HIV resistance, which would significantly affect HIV regimen options in the future. Patients must be educated about the risk of exposure to HIV with inadequate drug levels and the necessity for quarterly HIV testing for 12

months after drug discontinuation. If patients are still at risk of HIV at the time of discontinuation, an oral F/TDF or F/TAF regimen may be considered if appropriate.¹

DETERMINING A PREP REGIMEN FOR YOUR PATIENT

Generic daily F/TDF PrEP is safe, well-tolerated, cost-effective, and works well for adults and adolescents of all genders at risk for HIV through sexual and IV routes, thus making it likely the best choice for most PrEP users.¹⁴ Consider F/TAF for patients at risk of sexual acquisition of HIV through anal intercourse, including men and transwomen, patients with estimated creatinine clearance of 30 mL/min or greater but less than 60 mL/min, those at risk for renal disease (patients with hypertension or diabetes), patients with osteopenia or osteoporosis, or those unable to swallow a large pill. Increases

TABLE 1. Quick prescribing chart^{1,8-10,12}

	F/TDF	F/TAF	CAB-LA
Population considerations	<ul style="list-style-type: none"> Consider first-line PrEP for most patients with creatinine clearance of 60 mL/min or greater May consider 2-1-1 dosing in MSM 	<ul style="list-style-type: none"> Consider in patients at risk of renal disease (such as patients with hypertension or diabetes), reduced bone density, or patients unable to swallow a large pill (like F/TDF) Creatinine clearance of 30 mL/min or greater Should not be used in patients at risk through vaginal exposure 	<ul style="list-style-type: none"> Consider in patients unable to tolerate or adhere to oral PrEP or who prefer IM PrEP Appropriate for patients with severe renal disease Requires adherence to visits every 2 months
Adult dose (maintenance)	200 mg/300 mg oral once daily*	200 mg/25 mg oral once daily*	600 mg IM every 2 months (gluteal site)
Initiation dose	N/A	N/A	Two doses CAB-LA 1 month apart with optional 4-week oral lead-in dose
Adverse reactions	Headache, abdominal pain, weight loss	Diarrhea, possible weight gain, elevated triglycerides	Injection site reaction, headache, pyrexia, fatigue, back pain, myalgia, and rash
	A “start-up syndrome” of gastrointestinal adverse reactions and headache typically resolves within 1 month		
Initiation	HIV Ag/Ab test (laboratory-confirmed is preferred and point-of-care must be confirmed) Bacterial STI screening (syphilis and gonorrhea/chlamydia testing at sites of exposure)		
	Creatinine		-
Monitoring**	Every 3 months		Every 2 months
	<ul style="list-style-type: none"> Routine HIV Ag/Ab/RNA tests, STI screening, and adherence and risk reduction support Creatinine, lipid panel, and hepatitis B virus evaluation depending on regimen*** 		
Discontinuation	HIV Ag/Ab/RNA tests and hepatitis B virus evaluation		HIV Ag/Ab/RNA tests every 3 months for 12 months
Cost	All costs for medication, medical visits, and laboratory fees should be covered for insured patients without copay, and many programs are available for uninsured patients		
Average wholesale price	\$35-\$1,000/month. Typically, does not require preauthorization	About \$2,000/month. May require preauthorization	About \$3,700/2 months. May require preauthorization

*A 90-day single prescription is recommended

**Oral PrEP monitoring may include telehealth visits; CAB-LA requires in-person visits for drug administration

***See **Table 2** for specific monitoring recommendations based on regimen

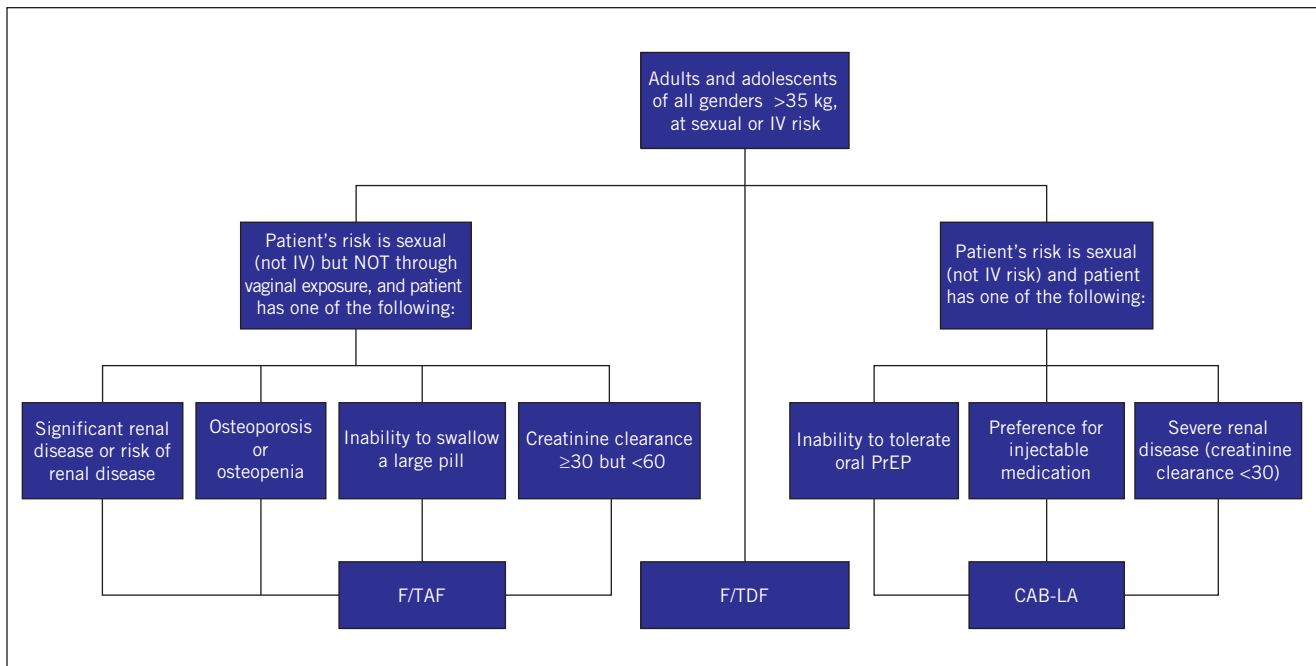


FIGURE 1. Determining the best PrEP regimen for your patient

in weight, triglycerides, and lipids can occur among patients using F/TAF PrEP and must be considered in relation to the patient's cardiovascular risk.¹⁵ Consider CAB-LA for adults and adolescents of all genders at risk for HIV through sexual routes who are unable to tolerate an oral regimen or who prefer an injection.¹ Though CAB-LA does not require daily adherence, its associated requirement of visits every 2 months may be challenging. Patients with severe renal disease (creatinine clearance less than 30 mL/min) or with other contraindications to an oral PrEP regimen should consider CAB-LA. CAB-LA and F/TAF are significantly more expensive than F/TDF and may require preauthorization, presenting a barrier to care for some patients (Figure 1).¹

EFFICACY CONSIDERATIONS

In comparing efficacy of drugs, clinical trials reported that F/TAF and CAB-LA were more effective than daily F/TDF PrEP; however, real-world data show that daily F/TDF PrEP is likely more than 99% effective, with only a few reported cases of failure among adherent patients.^{10,12,13,16} As discussed above, more seroconversions occurred among demonstrably adherent patients in the CAB-LA arm than among adherent patients in the F/TDF arm, though the number is small for both.¹⁰ Differences in efficacy among these drugs likely is clinically insignificant; each is highly, but not quite 100%, effective.¹⁰

EXPOSURE CONSIDERATIONS

Data are lacking on F/TAF use among patients at risk for HIV through vaginal sex, and it only remains indicated for those at risk for HIV through anorectal sexual

transmission.^{9,15} F/TAF is safe and well tolerated among patients at risk for vaginal HIV exposure, although an option with data supporting efficacy may be a better choice. Data also are lacking on CAB-LA for HIV prevention among patients who inject drugs, but this PrEP could be considered among these patients at risk for sexual acquisition of HIV.¹³

RENAL CONSIDERATIONS

In clinical trials, changes in renal biomarkers suggest that F/TAF may affect the kidneys less than F/TDF; however, no difference was seen among clinically important renal health measures. F/TDF is approved for patients with creatinine clearance of 60 mL/min or greater and F/TAF is approved for those with creatinine clearance of 30 mL/min or greater.¹ Both drugs require regular monitoring of renal function. However, CAB-LA is not known to affect renal function and may be used without regard to creatinine clearance.¹

DRUG INTERACTIONS

FDA-approved PrEP drugs do not interact with drugs commonly used in the United States, including buprenorphine, methadone, and oral contraceptives. Because of potential renal effects, closely monitor patients taking F/TDF who also are taking high-dose or multiple NSAIDs, medications for herpes simplex virus, or aminoglycosides. Do not coadminister rifampicin, rifabutin, and rifapentine with F/TAF or CAB-LA. Hepatitis antivirals should be evaluated for interactions with oral PrEP regimens, and adefovir should not be coadministered with F/TDF. Several

anticonvulsants have potential interactions with CAB-LA. Hormones associated with feminizing gender affirmation may reduce tissue concentrations of oral PrEP.^{1,8-10}

2-1-1 DOSING

Pericoital dosing may be desirable for certain people who are able to anticipate sexual encounters and who may wish to reduce potential pill burden, cost, or adverse reactions. Limited data demonstrate similar efficacy of “2-1-1” or on-demand dosing of F/TDF compared with daily use among MSM.^{17,18} The recommended 2-1-1 dosing is:

- 2 pills in the 2 to 24 hours before sex (closer to 24 hours preferred)
- 1 pill 24 hours after the initial two-pill dose
- 1 pill 48 hours after the initial two-pill dose.

Daily dosing may continue until 48 hours after the last sexual encounter. If a gap of fewer than 7 days occurs between the last pill and next sexual event, users may resume taking one pill daily; if 7 or more days, the two-pill induction should be completed (Figure 2). Clinicians

should provide a 30-day supply of F/TDF (that is, enough to cover up to seven separate events) and ensure ongoing monitoring for HIV and STIs. This regimen is not FDA-approved, and the CDC strongly recommends against the use of other drugs, use of other nondaily regimens, or use among non-MSM populations.^{1,17,18} 2-1-1 dosing should not be used in patients taking estradiol for feminizing therapy and adherence to daily PrEP should be reinforced.^{1,8-10}

CHANGES IN MONITORING

Monitor patients on PrEP at least every 3 months for those taking F/TDF and F/TAF regimens, including 2-1-1 dosing, and every 2 months for those on CAB-LA. This section highlights changes to monitoring recommendations made in the 2021 CDC guidelines.

HIV Screening is essential to PrEP management. Patients must be tested for HIV with a combination antigen/antibody (Ag/Ab) test within 1 week before initiation to ensure that they do not have HIV. This should be accompanied

TABLE 2. Significant changes to CDC PrEP guidelines (2017 compared with 2021)^{1,32}

	2017	2021
Populations	Specific populations identified	All sexually active adults and adolescents should receive information about PrEP
Adolescents	Data insufficient	PrEP recommended in adolescents over 35 kg (77 lb)
Drugs	Only daily F/TDF approved	<ul style="list-style-type: none"> • F/TDF 200/300 mg oral daily • F/TAF 200/25 mg oral daily* • CAB-LA 600 mg IM every 2 months • 2-1-1 F/TDF discussed**
Monitoring	Every visit: Risk reduction support, prevention services, monitor adherence and desire to continue PrEP	
Frequency of monitoring	F/TDF every 3 months	<ul style="list-style-type: none"> • F/TDF and F/TAF—every 3 months • CAB-LA—every 2 months
HIV testing	HIV Ag/Ab every 3 months	HIV Ag/Ab/RNA—every 2 to 3 months
Renal function testing	Every 6 months	<ul style="list-style-type: none"> • F/TDF and F/TAF: creatinine clearance yearly (every 6 months for patients over age 50 years or those with creatinine clearance less than 90 mL/min) • CAB-LA: no creatinine clearance monitoring needed
Bacterial STIs testing	Screening every 6 months	<ul style="list-style-type: none"> • All patients: syphilis every 6 months • MSM, transwomen who have sex with men: syphilis, gonorrhea/chlamydia 3 sites every 3-4 months • Heterosexual men and women: genital gonorrhea every 6 months; genital chlamydia yearly • Women who engage in receptive anal intercourse: rectal gonorrhea/chlamydia every 6 months
Lipid profile testing	None	Patients on F/TAF only: yearly weight, triglycerides, cholesterol levels
Hepatitis B testing	Before initiation and at the time of discontinuation for F/TDF or F/TAF	
Additional information	DEXA scans not indicated	DEXA scans, liver function tests, and hematologic assays not indicated

*F/TAF is not FDA-approved for patients at risk through vaginal exposure

**2-1-1 F/TDF is not FDA-approved

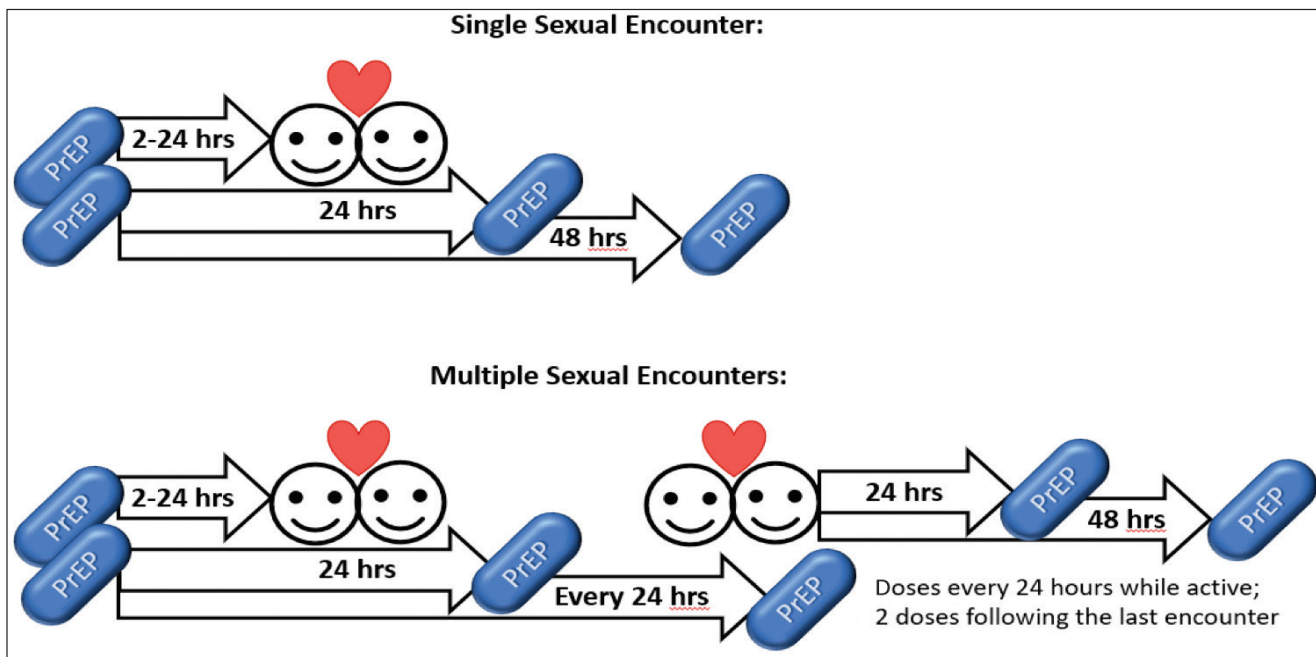


FIGURE 2. 2-1-1 dosing regimen^{17,18}

by a history, including the most recent possible exposure and symptoms of seroconversion. Routine testing with Ag/Ab and HIV RNA (viral load) should be completed every 3 months for patients on emtricitabine/tenofovir-based regimens and every 2 months for patients on CAB-LA.¹ Confirm negative HIV testing within 1 week before administering each dose of CAB-LA.^{10,12} Antiretroviral drugs may slow the detection of HIV through traditional screening methods; therefore, HIV RNA testing is essential to detect infection as early as possible among patients on PrEP.^{1,19} HIV RNA testing is not FDA-approved to screen for HIV and a small risk of false positives must be considered; any positive HIV RNA result should be confirmed with repeated HIV Ag/Ab testing in accordance with local laboratory protocols.²⁰ Point-of-care (POC) HIV Ag/Ab tests are less sensitive than laboratory-based tests. POC tests should always be ordered concurrently with a laboratory-based test.¹

Patients rarely develop an HIV infection while on PrEP; however, an undetected infection at baseline or seroconversion while a patient is on PrEP could lead to resistance. The one to two antiretrovirals included in PrEP are not enough to maintain suppression of HIV, allowing the virus an environment perfect for developing resistance. All FDA-approved PrEP regimens are recommended as part of HIV treatment, and their drug classes are recommended first-line therapy. HIV drug resistance may lead to patients having more potential for pill burden, adverse reactions, or drug interactions.¹

Renal function F/TDF and F/TAF regimens may affect renal function, requiring routine assessment of creatinine

clearance. Monitor creatinine clearance every 6 months among patients over age 50 years or those who have a creatinine clearance less than 90 mL/min at PrEP initiation. Patients age 50 years and younger with a creatinine clearance greater than 90 mL/min should have creatinine clearance monitored annually. No current recommendation exists for monitoring this parameter in patients taking CAB-LA.¹

Bacterial STIs The CDC recommends screening for syphilis at the initial PrEP visit and every 6 months thereafter. Gonorrhea screening is recommended every 3 months for MSM and every 6 months for women. Chlamydia screening is recommended for women at PrEP initiation and then annually, and for MSM at PrEP initiation and then quarterly. Three-site testing of pharyngeal, rectal, and genital/urine specimens is recommended; however, STI guidelines recommend considering more frequent screening based on patient needs or risk.¹

Lipid profile Weight, triglycerides, and cholesterol levels must be monitored annually for patients on F/TAF because of the potential for weight increase.¹ F/TDF is associated with minor weight loss, and CAB-LA is considered weight-neutral (Tables 1 and 2).^{8,10}

SAME-DAY AND TELEHEALTH PREP PRESCRIBING

If acute HIV infection can be ruled out by history (for example, identifying potential recent exposure and seroconversion symptoms), a POC rapid HIV Ag/Ab blood test provides the opportunity to initiate same-day PrEP. When possible, the rapid test should be confirmed with

laboratory HIV Ag/Ab and/or HIV RNA tests; POC oral tests are less sensitive and should not be used. If an emtricitabine/tenofovir-based regimen is being considered, assess the patient's creatinine clearance with a POC or laboratory test, although PrEP may be started without these results. Perform STI screening when possible. Helping patients arrange healthcare coverage by directing them to resources for insurance and/or prescription programs may increase ongoing medication adherence. Schedule follow-up appointments.

Same-day initiation is not recommended for patients who need more time to consider starting PrEP, have a history of renal disease, or have had recent exposure or seroconversion symptoms.¹ Telehealth may facilitate oral PrEP use if patients have access to laboratory facilities or home collection kits.²¹ Many laboratory facilities do not have the capacity to screen for extragenital STIs, which is especially important for MSM, transwomen who have sex with men, and women engaging in receptive anal intercourse. Self-collection of swabs is appropriate within the context of both telehealth and in-person visits.¹

COST

Since June 2019, PrEP has been given a Grade A rating by the USPSTF. As a provision of the Affordable Care Act, nearly every private healthcare insurer in the United States is required to cover, without cost-sharing, services or evidence-based items with the USPSTF Grade A or B evidence rating, including PrEP. In July 2021, in response to reports of payer noncompliance, the federal government released clarifying guidance to insurers about their obligation to cover PrEP, specifically noting that the Public Health Service Act includes services to prevent HIV infection.⁵ This coverage includes clinic visits, prescriptions, associated laboratory studies, and appropriate immunizations. The requirement for payers to cover these preventive services without cost-sharing has been recently challenged in federal court. Without the help of insurance or payment assistance plans, the cost of PrEP alone, without required office visits and laboratory studies, can be prohibitive. The average wholesale price for monthly brand-name F/TDF is reported to be \$2,211 or \$2,100 for generic. The out-of-pocket cost can be as low as \$35 per month with the use of coupon cards and depending on insurance coverage.²² The current average wholesale monthly price for F/TAF is \$2,317.²³ A single dose (2 months) of CAB-LA costs \$3,700.²⁴ What USPSTF rating CAB-LA will be assigned is not known, nor is whether this delivery method of PrEP will be included in the Public Health Service Act.

For people without healthcare insurance, programs and options can improve the affordability of PrEP.¹ The "Ready, Set, PrEP" program is an HHS HIV prevention program that provides free PrEP medication; the cost of laboratory testing and clinic visits varies based on

income.²⁵ Manufacturer copay assistance programs and state-level PrEP assistance programs also are available.²⁶ Some of these programs lower the cost of medication; others cover medication or laboratory testing and clinic visits, or both. Accessing some of these programs can be limited by a patient's health literacy, access to computers and internet, and sometimes confusing and difficult sign-up processes.²⁷

COMBINED PREVENTION METHODS

Although PrEP is among the most effective ways of preventing HIV transmission, prevention includes multiple choices that may be combined for maximum efficacy. Condoms are only effective if used consistently and correctly. Safer-sex counseling is unlikely to change patient behaviors enough to reduce HIV risk significantly and sustainably.²⁸

Patients who are seen for one or more courses of non-occupational postexposure prophylaxis (nPEP) and have ongoing risk for HIV exposure should be evaluated or referred for PrEP. PrEP may be started immediately after completion of nPEP in patients who are confirmed HIV-negative. If CAB-LA is started, the patient may immediately begin dosing every 2 months because they have already completed 28 days of antivirals. Patients who are adherent on PrEP do not need to initiate nPEP following a potential or confirmed HIV exposure.¹

Antiretroviral therapy use among people living with HIV can suppress the viral load to levels below the threshold of detection, which eliminates the risk of sexual transmission (often called undetectable = untransmittable, or U=U).^{29,30} A monogamous, serodiscordant couple (that is, one partner is living with HIV and the other is not) may still consider PrEP if the partner without HIV would like reassurance.¹ Consensual nonmonogamy is an increasingly recognized lifestyle; clinicians and patients may struggle with discussions on this topic and should not make assumptions about relationship structures.³¹ Open-ended, non-judgmental history-taking is important for all patient encounters, but critically so for questions about sexuality and relationships.

As PrEP options continue to emerge, new delivery methods, potentially including technologies in combination with contraception, and implantable drug delivery devices, are more likely to benefit diverse patient populations. Affordability, access, and decreased barriers to care remain paramount.

CONCLUSION

Recent expansions in PrEP guidance encourage introduction of these prevention options to most patients. Clinicians across all specialties, settings, and geographic locations must be familiar with PrEP and keep current with guidelines. Inequitable distribution of PrEP continues to fail Black and Hispanic patients and residents of southern

states, who account for disproportionately low numbers of PrEP users.¹ Universal discussions with all sexually active patients, as recommended by the CDC, will help increase patient exposure to and opportunities for PrEP.¹ **JAAPA**

Earn AAPA Category 1 CME credit by reading both CME articles in this issue, reviewing the post-test, then taking the online test at <https://cme.aapa.org>. Successful completion is defined as a cumulative score of at least 70% correct. This material has been reviewed and is approved for 1 AAPA Category 1 CME credit. The term of approval is for 1 year from the publication date of February 2023.

REFERENCES

- Centers for Disease Control and Prevention. US Public Health Service: preexposure prophylaxis for the prevention of HIV infection in the United States—2021 update: a clinical practice guideline. www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2021.pdf. Accessed October 20, 2022.
- Centers for Disease Control and Prevention. PrEP for HIV prevention in the US. www.cdc.gov/nchstp/newsroom/fact-sheets/hiv/PrEP-for-hiv-prevention-in-the-US-factsheet.html. Accessed October 20, 2022.
- Centers for Disease Control and Prevention. HIV surveillance reports. www.cdc.gov/hiv/library/reports/hiv-surveillance.html. Accessed October 20, 2022.
- US Preventive Services Task Force, Owens DK, Davidson KW, et al. Preexposure prophylaxis for the prevention of HIV infection: US Preventive Services Task Force Recommendation Statement. *JAMA*. 2019;321(22):2203-2213.
- US Department of Health and Human Services. FAQs about Affordable Care Act Implementation Part 47. www.hhs.gov/guidance/document/faqs-about-affordable-care-act-implementation-part-47. Accessed October 20, 2022.
- Petroll AE, Walsh JL, Owczarzak JL, et al. PrEP awareness, familiarity, comfort, and prescribing experience among US primary care providers and HIV specialists. *AIDS Behav*. 2017;21(5):1256-1267.
- Carnes N, Zhang J, Gelaude D, et al. Restricting access: a secondary analysis of scope of practice laws and pre-exposure prophylaxis prescribing in the United States, 2017. *J Assoc Nurses AIDS Care*. 2022;33(1):89-97.
- Gilead Sciences. Truvada (emtricitabine and tenofovir disoproxil fumarate) prescribing information. www.gilead.com/~media/files/pdfs/medicines/hiv/truvada/truvada_pi.pdf. Accessed October 20, 2022.
- Gilead Sciences. Descovy (emtricitabine and tenofovir alafenamide) prescribing information. www.accessdata.fda.gov/drugsatfda_docs/label/2019/208215s012lbl.pdf. Accessed October 20, 2022.
- Landovitz RJ, Donnell D, Clement ME, et al. Cabotegravir for HIV prevention in cisgender men and transgender women. *N Engl J Med*. 2021;385(7):595-608.
- Eaton LA, Earnshaw VA, Maksut JL, et al. Experiences of stigma and health care engagement among Black MSM newly diagnosed with HIV/STI. *J Behav Med*. 2018;41(4):458-466.
- Delany-Moretlwe S, Hughes JP, Bock P, et al. Cabotegravir for the prevention of HIV-1 in women: results from HPTN 084, a phase 3, randomised clinical trial. *Lancet*. 2022;399(10337):1779-1789.
- US Food and Drug Administration. FDA approves first injectable treatment for HIV pre-exposure prevention. www.fda.gov/news-events/press-announcements/fda-approves-first-injectable-treatment-hiv-pre-exposure-prevention. Accessed October 20, 2022.
- Baker J, Rolls J. Update on HIV prevention and preexposure prophylaxis. *JAAPA*. 2020;33(6):12-17.
- Mayer KH, Molina J-M, Thompson MA, et al. Emtricitabine and tenofovir alafenamide vs emtricitabine and tenofovir disoproxil fumarate for HIV pre-exposure prophylaxis (DISCOVER): primary results from a randomised, double-blind, multicentre, active-controlled, phase 3, non-inferiority trial. *Lancet*. 2020;396(10246):239-254.
- Chou R, Evans C, Hoverman A, et al. Preexposure prophylaxis for the prevention of HIV infection: evidence report and systematic review for the US Preventive Services Task Force. *JAMA*. 2019;321(22):2214-2230.
- Molina J-M, Capitant C, Spire B, et al. On-demand preexposure prophylaxis in men at high risk for HIV-1 infection. *N Engl J Med*. 2015;373(23):2237-2246.
- Molina J-M, Charreau I, Spire B, et al. Efficacy, safety, and effect on sexual behaviour of on-demand pre-exposure prophylaxis for HIV in men who have sex with men: an observational cohort study. *Lancet HIV*. 2017;4(9):e402-e410.
- Marzinke MA, Grinsztejn B, Fogel JM, et al. Characterization of human immunodeficiency virus (HIV) infection in cisgender men and transgender women who have sex with men receiving injectable cabotegravir for HIV prevention: HPTN 083. *J Infect Dis*. 2021;224(9):1581-1592.
- Cohen MS, Gay CL, Busch MP, Hecht FM. The detection of acute HIV infection. *J Infect Dis*. 2010;202(suppl 2):S270-277.
- Centers for Disease Control and Prevention. PrEP during COVID-19. www.cdc.gov/nchstp/dear_colleague/2020/dcl-051520-PrEP-during-COVID-19.html. Accessed November 14, 2022.
- GoodRx. Emtricitabine/tenofovir. www.goodrx.com/emtricitabine-tenofovir. Accessed October 20, 2022.
- National Institutes of Health. Cost considerations and antiretroviral therapy. <https://clinicalinfo.hiv.gov/es/node/9196>. Accessed October 20, 2022.
- Sharfstein JM, Killelea A, Dangerfield D. Long-acting cabotegravir for HIV prevention: issues of access, cost, and equity. *JAMA*. 2022;327(10):921-922.
- US Department of Health and Human Services. Ready, set, PrEP: find out if you qualify to enroll for free PrEP medications. <https://readyssetprep.hiv.gov>. Accessed October 20, 2022.
- Centers for Disease Control and Prevention. How can I pay for PrEP? www.cdc.gov/hiv/basics/prep/paying-for-prep/index.html. Accessed November 14, 2022.
- GoodRx. Patient assistance programs: what are they and how do they work? www.goodrx.com/healthcare-access/patient-advocacy/what-are-patient-assistance-programs. Accessed October 20, 2022.
- Metsch LR, Feaster DJ, Gooden L, et al. Effect of risk-reduction counseling with rapid HIV testing on risk of acquiring sexually transmitted infections: the AWARE randomized clinical trial. *JAMA*. 2013;310(16):1701-1710.
- Rodger AJ, Cambiano V, Bruun T, et al. Sexual activity without condoms and risk of HIV transmission in serodifferent couples when the HIV-positive partner is using suppressive antiretroviral therapy. *JAMA*. 2016;316(2):171-181.
- Rodger AJ, Cambiano V, Bruun T, et al. Risk of HIV transmission through condomless sex in serodifferent gay couples with the HIV-positive partner taking suppressive antiretroviral therapy (PARTNER): final results of a multicentre, prospective, observational study. *Lancet*. 2019;393(10189):2428-2438.
- Hauptert ML, Gesselman AN, Moors AC, et al. Prevalence of experiences with consensual nonmonogamous relationships: findings from two national samples of single Americans. *J Sex Marital Ther*. 2017;43(5):424-440.
- Centers for Disease Control and Prevention. Preexposure prophylaxis for the prevention of HIV infection in the United States—2017 update: a clinical practice guideline. www.cdc.gov/hiv/pdf/risk/prep/cdc-hiv-prep-guidelines-2017.pdf. Accessed November 18, 2022.