

HIV PrEP

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Outline

Data

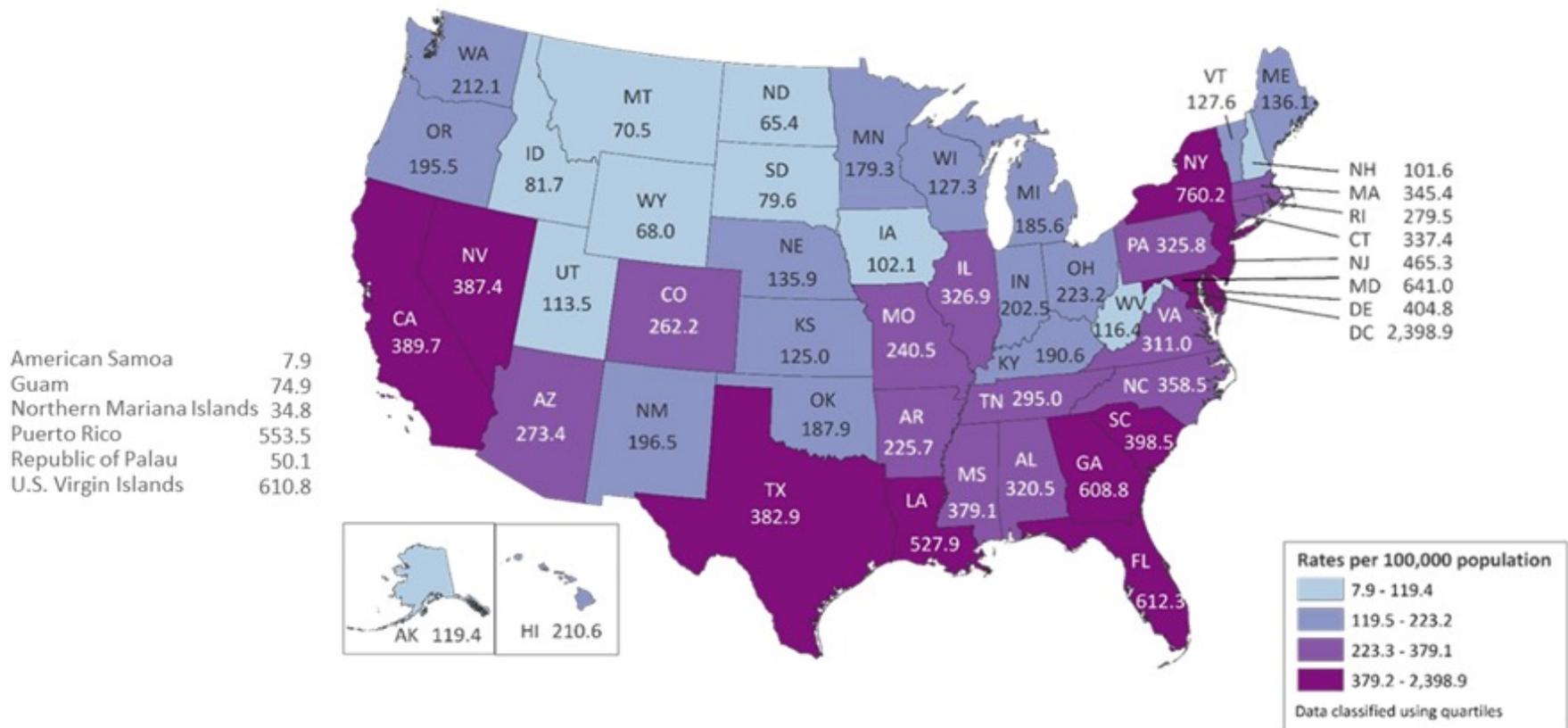
- HIV in the US
- Survival after AIDS diagnosis by race/ethnicity

HIV Prevention Strategies

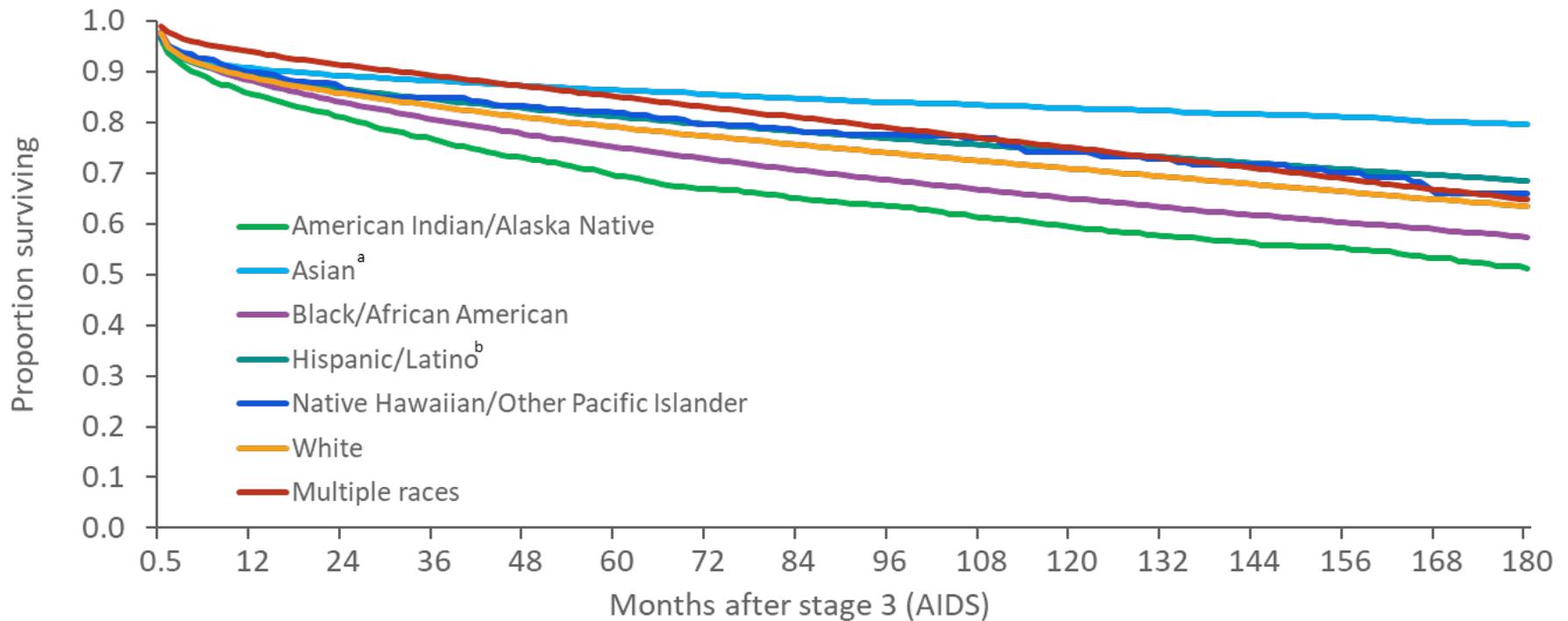
- Focusing on PrEP

Rates of Adults and Adolescents Living with Diagnosed HIV Infection Year-end 2017—United States and 6 Dependent Areas

N = 1,018,346 Total Rate = 369.4



Survival after Classification of Stage 3 (AIDS) during 2000—2013, by Months Survived and Race/Ethnicity—United States and 6 Dependent Areas



Note. Data exclude persons whose month of diagnosis or month of death is unknown.

^a Includes Asian/Pacific Islander legacy cases.

^b Hispanics/Latinos can be of any race.



HIV Prevention Strategies

- Sexual behavior modification
- Condom use
- Test and treat STIs
- HIV treatment as prevention (U=U)
- PrEP: Pre-Exposure Prophylaxis
- PEP: Post-Exposure Prophylaxis
- Offer sterile, personalized injection drug use equipment for people who inject drugs

HIV Prevention Strategies

- Sexual behavior modification
- Condom use
- Test and treat STIs
- HIV treatment as prevention (U=U)
- **PrEP: Pre-Exposure Prophylaxis**
- PEP: Post-Exposure Prophylaxis
- Offer sterile, personalized injection drug use equipment for people who inject drugs

Which of
the
Following
Best
Describes
your
Experience
with PrEP?

A. Have never heard of PrEP
before this

B. Familiar with PrEP but
have never recommended it

C. Have recommended PrEP
to a patient/client

D. Have prescribed PrEP a
few times before

E. Have extensive experience
prescribing PrEP to patients

Which of the following patients would benefit from PrEP?

- A. A person who injects drugs, shares needles and the last injection was 2 months ago
- B. A man who has sex with men (MSM), has a stable HIV negative partner and uses condoms systematically
- C. A heterosexual female recently diagnosed with syphilis
- D. A 23 yo male who is asking for PrEP but denies any risk factors for HIV

- **Pre-exposure prophylaxis (or PrEP)** is when people who are at risk for HIV take anti-retroviral drugs to lower their chance of getting HIV.

What is PrEP?

PrEP is not a substitution for other HIV prevention interventions!

PrEP does not protect against other STIs!

...able
taken regularly
administered one
every two months

Why PrEP?

PrEP is highly effective



When taking oral PrEP daily or consistently (*at least 4 times per week*) the risk of acquiring HIV is reduced by:

about 99% among MSM (men who have sex with men)

an estimated 74 – 84% among PWID

Who should be offered PrEP?

- The federal guidelines recommend that PrEP be considered for people who are HIV negative and:
 - Have **had anal or vaginal sex in the past 6 months and:**

Anyone who is at risk for acquiring HIV

post-exposure prophylaxis (PEP) and

- report continued risk behavior, or
- have used multiple courses of PEP

Oral PrEP

Oral PrEP

Recommended Oral PrEP Medications

Generic Name	Trade Name	Dose	Frequency	Most Common Side Effects ^{109,110}
F/TDF	Truvada	200 mg/300 mg	Once a day	Headache, abdominal pain, weight loss
F/TAF	Descovy	200 mg/25 mg	Once a day	Diarrhea

Adherence and F/TDF PrEP Efficacy in MSM

Weekly Medication Adherence Estimated by Drug Concentration	HIV Incidence per 100 person/years
None	4.2
≤2 pills/week	2.3
2-3 pills/week	0.6
≥4 pills/week	0.0

Baseline Labs for Oral PrEP

Renal function

Hepatitis B serology:

- Hep B Surface Ab
- Hep B Surface Ag
- Hep B Core Ab

Lipid profile (F/TAF)

HIV 1/2 Ab/Ag

Oral PrEP Follow-up

- Every 3 months:
 - Repeat HIV testing
 - Assess for signs or symptoms of acute HIV infection
 - Provide RX for no more than 90 days (until the next HIV test)
 - Assess medication adherence and risk-reduction behaviors
 - Conduct STI testing if symptoms of infection
 - Conduct STI screening for asymptomatic MSM at high risk for syphilis, gonorrhea, or chlamydia

Features	Overall (n = 375) %
Fever	75
Fatigue	68
Myalgia	49
Skin rash	48
Headache	45
Pharyngitis	40
Cervical adenopathy	39
Arthralgia	30
Night sweats	28
Diarrhea	27

Oral PrEP Follow-up

- Every 6 months:
 - Monitor eCrCl for persons age ≥ 50 years or who have an eCrCl < 90 ml/min at PrEP initiation
 - If other threats to renal safety are present (e.g., hypertension, diabetes), renal function may require more frequent monitoring or may need to include additional tests (e.g., urinalysis for proteinuria)
 - A rise in serum creatinine is not a reason to withhold treatment if eCrCl remains ≥ 60 ml/min for F/TDF or ≥ 30 for F/TAF
 - If eCrCl is declining steadily (but still ≥ 60 ml/min for F/TDF or ≥ 30 ml/min for F/TAF), ask if the patient is taking high doses of NSAID or using protein powders; consultation with a nephrologist or other evaluation of possible threats to renal health may be indicated
 - Conduct STI screening for sexually active persons (i.e., syphilis, gonorrhea, for all PrEP patients and chlamydia for MSM and TGW even if asymptomatic)
 - Assess need for continuing or discontinuing PrEP

Oral PrEP Follow-up

- At least every 12 months:
 - Monitor eCrCl for all patients continuing on PrEP medication
 - Monitor triglyceride, cholesterol levels, and weight for patients prescribed F/TAF for PrEP
 - Conduct chlamydia screening for heterosexual women and men even if asymptomatic

Timing of Oral PrEP-associated Lab Tests

Test	Screening/Baseline Visit	Q 3 months	Q 6 months	Q 12 months	When stopping PrEP
HIV Test	X*	X			X*
eCrCl	X		If age ≥ 50 or eCrCL < 90 ml/min at PrEP initiation	If age < 50 and eCrCl ≥ 90 ml/min at PrEP initiation	X
Syphilis	X	MSM /TGW	X		MSM/TGW
Gonorrhea	X	MSM /TGW	X		MSM /TGW
Chlamydia	X	MSM /TGW	X		MSM /TGW
Lipid panel (F/TAF)	X			X	
Hep B serology	X				
Hep C serology	MSM, TGW, and PWID only			MSM, TGW, and PWID only	

* Assess for acute HIV infection

Discontinuing Oral PrEP

Provider should document:

- HIV status at the time of discontinuation
- Reason for discontinuation
- Recent medication adherence and reported sexual risk behavior

Restarting PrEP requires same initial evaluation, minus the Hep B serology

Injectable PrEP

Injectable PrEP

- Cabotegravir (CAB) 600 mg (brand name Apretude®)
- Only for patients whose risk factors for HIV include sexual transmission only (not for PWID)
- Adults and adolescents who weigh at least 35 kg (77 lb)
- CAB injections may be a good option for PrEP for people who
 - Have problems taking oral PrEP as prescribed
 - Prefer getting a shot every 2 months instead of taking oral PrEP
 - Have serious kidney disease that prevents use of oral PrEP medications

CAB: Significantly Lower Incidence of HIV-1 Infection vs Daily Oral PrEP

Women
18-45 yo

90%
LOWER INCIDENCE
vs TDF/FTC

Incident HIV-1 infections
APRETUDE: 3[†]
in 1960 person-years
TDF/FTC: 36
in 1946 person-years

HIV-1 infections occurred
12x less often
WITH APRETUDE

69%
LOWER INCIDENCE
vs TDF/FTC

Incident HIV-1 infections
APRETUDE: 12[†]
in 3211 person-years
TDF/FTC: 39
in 3193 person-years

HIV-1 infections occurred
>3x less often
WITH APRETUDE

MSM/TGW
>18 yo

Contraindications – CAB

Unknown or positive HIV-1 status

Previous hypersensitivity reaction to CAB

Taking medications that reduce concentrations of CAB

- Anticonvulsants: Carbamazepine, oxcarbazepine, phenobarbital, phenytoin
- Antimycobacterials: Rifampin, rifapentine

CAB – Side Effects

Injection site
reactions

Headache

Fever

Fatigue

Diarrhea

Nausea

Rash

How Is Injectable PrEP Administered?

- IM – ventro- (preferred) or dorso- gluteal – 3mL at room temp – must be given within 2 hours of drawing it up in syringe – use long enough needle based on body habitus – 1.5-2”
- First dose – IM injection of CAB 600mg
- 1 month later – IM injection of CAB 600mg
- Every 2 months after - IM injection of CAB 600mg
- If concern for side effects:
 - A 4-week lead-in period of 30 mg daily oral CAB prior to the first injection is optional

Baseline Assessment for PrEP with CAB

Visit #1

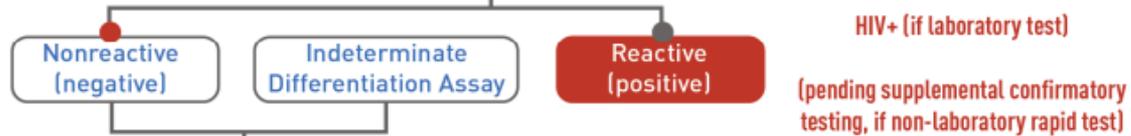
- HIV testing: Confirm that the patient does not have HIV before prescribing PrEP
- Sexually transmitted infection (STI) testing: Screen injectable PrEP candidates who are sexually active for chlamydia, gonorrhea, and syphilis

Tests not indicated with CAB that are indicated with F/TAF or F/TDF:

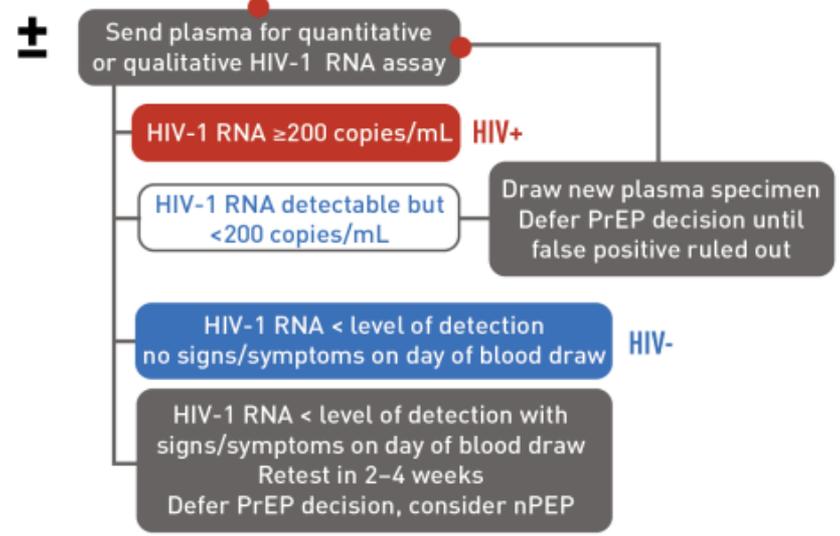
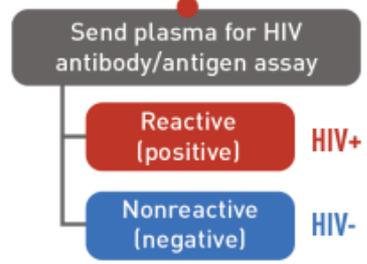
- Creatinine, eCrCl, hepatitis B serology, lipid panels

If the patient has not taken oral PrEP or PEP medication in the past 3 months
 AND
 has not received a cabotegravir injection in the past 12 months

HIV antibody/antigen plasma test laboratory (preferred) with reflex confirmation
 OR blood rapid test



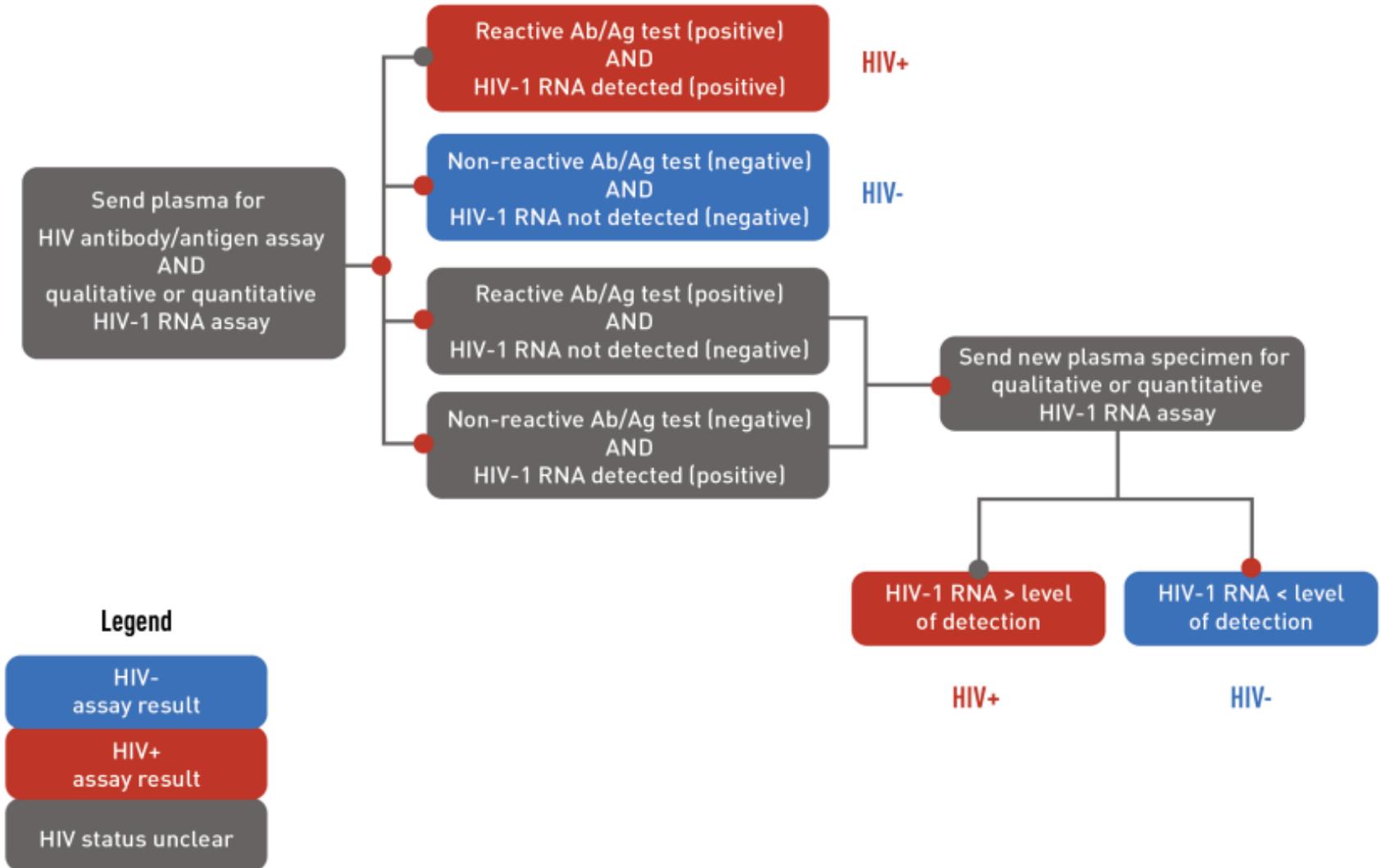
Reported HIV exposure-prone event in prior 4 weeks
 AND
 Signs/symptoms of acute HIV infection any time in prior 4 weeks



Legend

- HIV- Eligible for PrEP
- HIV+ Not eligible for PrEP
- HIV status unclear Defer PrEP decision

If the patient has taken oral PrEP or PEP medication in the past 3 months
 OR
 has received a cabotegravir injection in the past 12 months



Visit #2 – Month 1

- Test for HIV with antigen/antibody and HIV-1 RNA assays
- Assess for signs or symptoms of acute HIV infection
- Administer 2nd CAB injection
- Respond to new questions
- Provide medication adherence and behavioral risk-reduction support



Features	Overall (n = 375) %
Fever	75
Fatigue	68
Myalgia	49
Skin rash	48
Headache	45
Pharyngitis	40
Cervical adenopathy	39
Arthralgia	30
Night sweats	28
Diarrhea	27

Visit #3 – Month 3 – Repeat Bimonthly

- Test for HIV with antigen/antibody and HIV-1 RNA assays
- Assess for signs or symptoms of acute HIV infection
- Administer CAB injection
- Provide access to sterile needles or syringes and substance use disorder treatment services for people who inject drugs
- Respond to new questions and provide any new information about CAB for PrEP
- Discuss the benefits of persistent CAB for PrEP use and adherence to scheduled injection visits

Bacterial STI Testing with CAB

For gay, bisexual, and other MSM or TGW who have sex with men:

- At least every 4 months, and as often as needed
- Oral, rectal, urine, blood

For heterosexually active people:

- At least every 6 months, and as often as needed
- Vaginal, oral, rectal, urine, as indicated; blood

Screen for:

- Gonorrhea
- Chlamydia
- Syphilis

Discontinuing CAB

- Educate patients about the “tail” and the risks during declining CAB levels
- Assess ongoing risk/indications
- If PrEP is indicated, prescribe daily oral F/TDF or F/TAF beginning within 8 weeks after last injection
- Educate about nPEP
- Continue follow-up visits quarterly for 12 months
 - Conduct HIV-1 RNA tests at each quarterly follow-up visit after discontinuing CAB injections

Unplanned Missed CAB Injections

If a scheduled injection visit is missed or delayed by more than 7 days:

	Time since Last Injection	Recommendation
If second injection is missed and time since first injection is:	Less than or equal to 2 months	Administer CAB as soon as possible, then continue to follow the every-2-month dosing schedule.
	Greater than 2 months	Restart CAB from the beginning - with monthly doses x 2, then every-2-month dosing schedule.
If third or subsequent injection is missed and time since prior injection is:	Less than or equal to 3 months	Administer CAB as soon as possible, then continue with the every-2-month injection dosing schedule.
	Greater than 3 months	Restart CAB from the beginning - with monthly doses x 2, then every-2-month dosing schedule.

Do not....with CAB

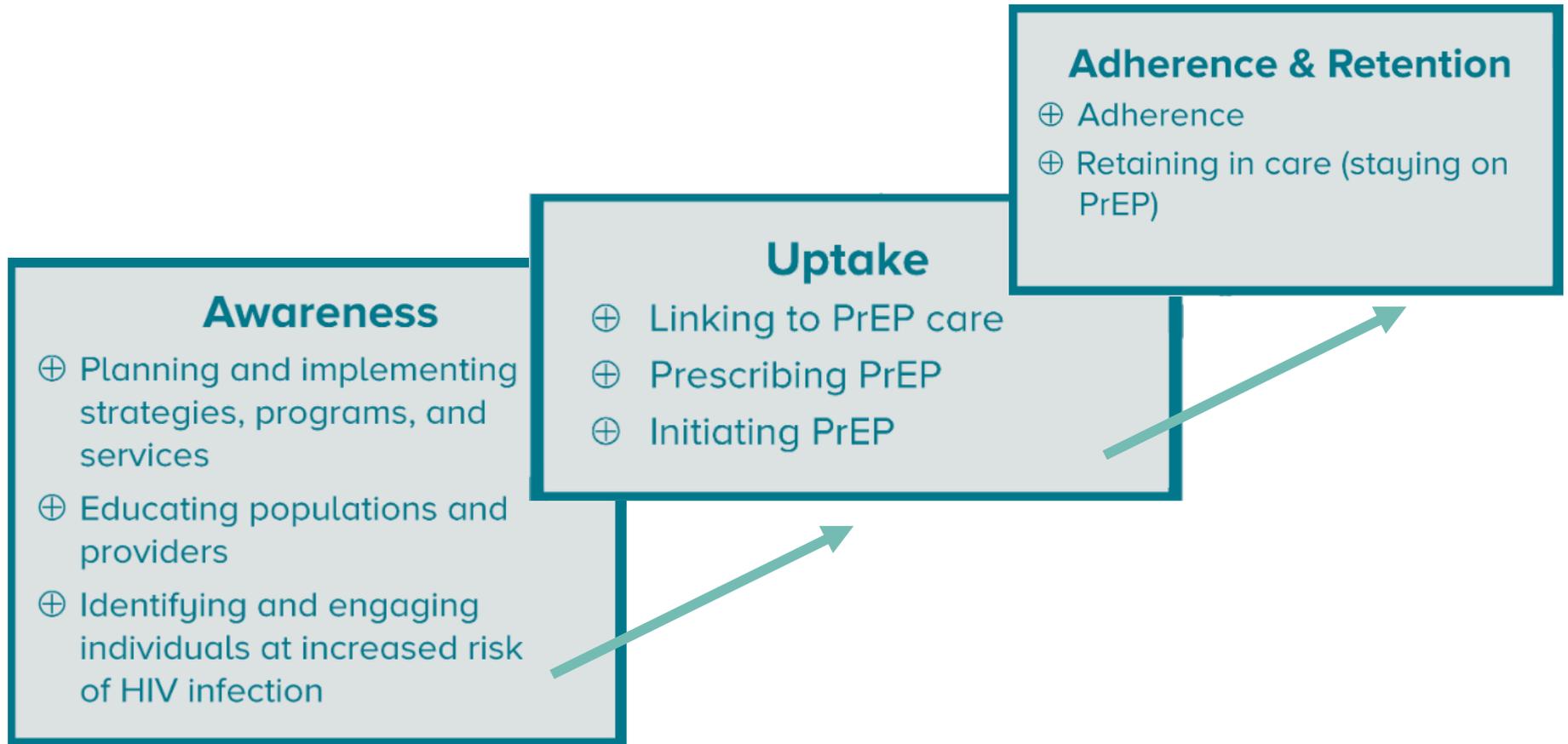
Do not give other antiretroviral medications with CAB for PrEP

Do not administer at any site other than gluteal muscle

Do not dispense for home administration

Do not prescribe ongoing daily oral CAB (other than for lead-in prior to initiating or restarting injections)

Continuum of PrEP Care



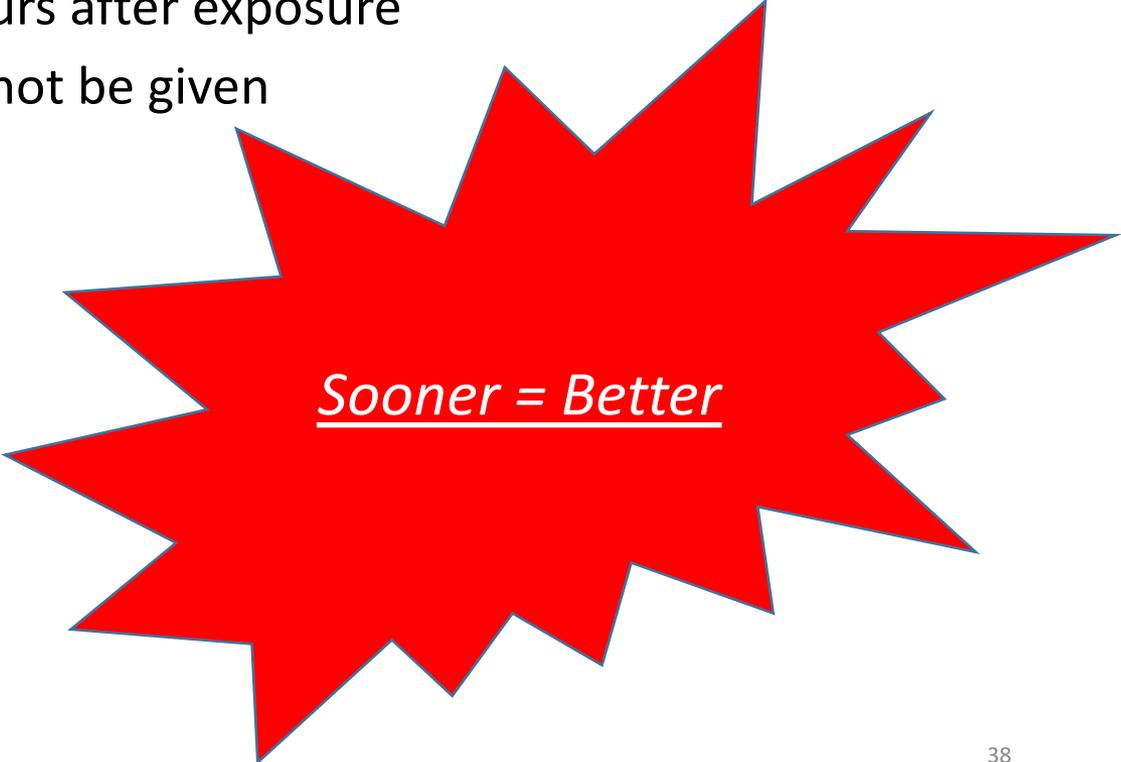
Role of the PCP in PrEP

- Consider PrEP for at-risk individuals
 - Take a good sexual health history to find at-risk individuals
 - Ask about injection drug use
- Discuss with the patient the principles of PrEP
- Offer brochures for PrEP in your office
- Decide:
 - Is this something I will offer my patient?
 - If not me, who? If not now, when?

Post-exposure Prophylaxis (PEP)

Exposure to HIV is an Emergency!

- The ideal time to administer PEP – within 2 hours of exposure!
 - Consider giving the first dose, aka emergency dose, immediately upon presentation
- Can be given up to 72 hours after exposure
- After 72 hours, it should not be given



Sooner = Better

Who should be offered PEP?

Individuals who are HIV negative or unknown HIV status who:

- May have been exposed to HIV during sex
- Shared needles or other equipment (works) to inject drugs
- Were sexually assaulted
- May have been exposed to HIV at work

Determining Exposure Risk

Negligible Risk for HIV Acquisition

Exposure of

Vagina, rectum, eye, mouth or other mucous membrane, intact or nonintact skin, or percutaneous contact

With

Urine, nasal secretions, saliva, sweat, or tears if not visibly contaminated with blood

Regardless

Of the known or suspected HIV status of the source

Substantial Risk for HIV Acquisition

Exposure of

Vagina, rectum, eye, mouth or other mucous membrane, nonintact skin, or percutaneous contact

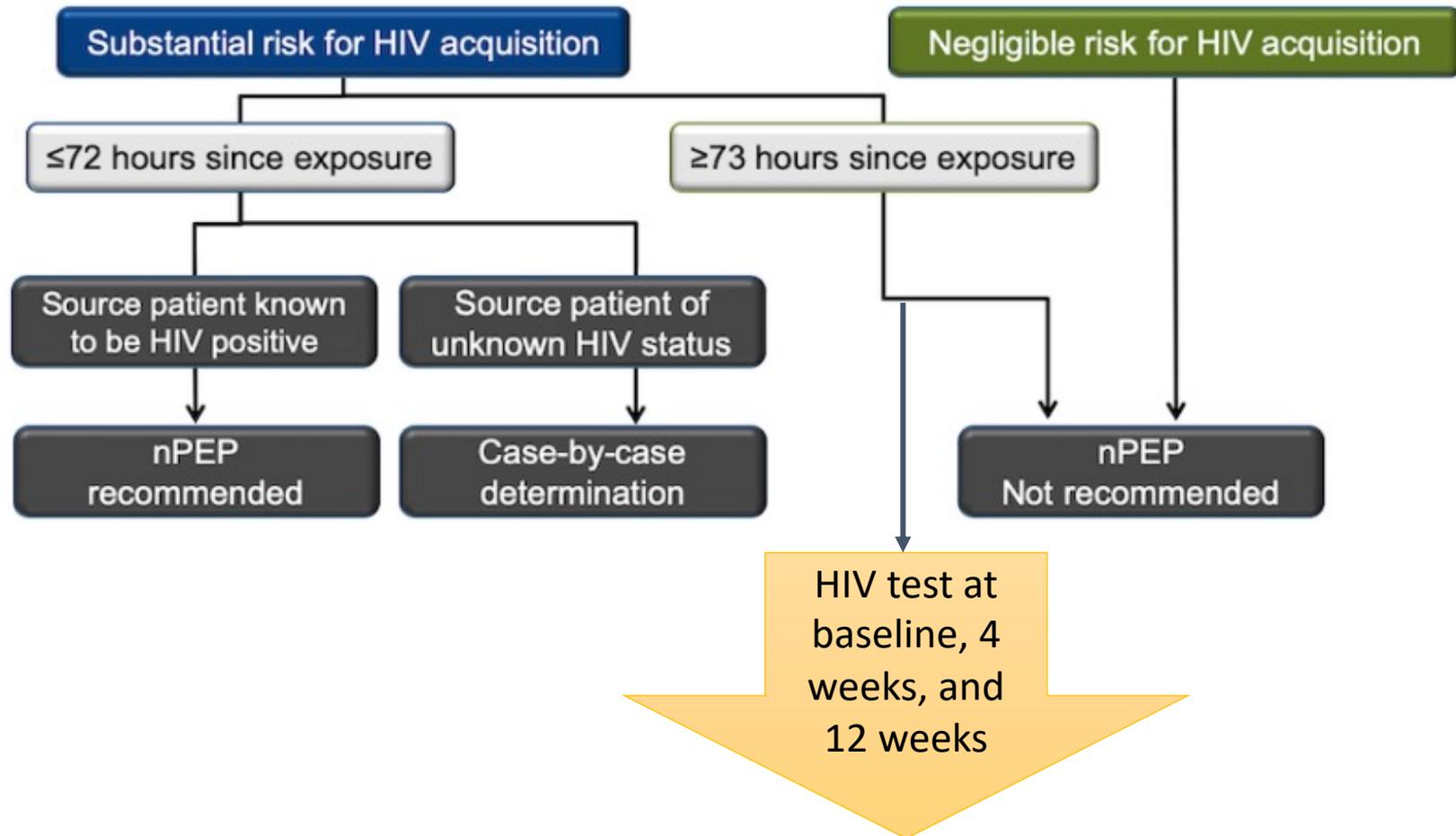
With

Blood, semen, vaginal secretions, rectal secretions, breast milk, or any body fluid that is visibly contaminated with blood

When

The source is known to be HIV-positive

Algorithm for Evaluation and Treatment of possible nonoccupational HIV exposures



Recommended Labs for PEP evaluation

Baseline	4 weeks	3 months	6 months
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/> HIV Ab/Ag test	<input type="checkbox"/> HIV Ab/Ag test	<input type="checkbox"/> HIV Ab/Ag test	<input type="checkbox"/> Syphilis serology*
<input type="checkbox"/> Hep B Surface Ab	<input type="checkbox"/> Cr/AST/ALT**		<input type="checkbox"/> HIV Ab/Ag test if acquisition of from this exposure HCV
<input type="checkbox"/> Hep B Surface Ag	<input type="checkbox"/> Syphilis serology*		
<input type="checkbox"/> Hep B core Ab	<input type="checkbox"/> Gonorrhea*^		
<input type="checkbox"/> Hep C Ab	<input type="checkbox"/> Chlamydia*^		
<input type="checkbox"/> Cr/AST/ALT	<input type="checkbox"/> Pregnancy*		
<input type="checkbox"/> Syphilis serology*			
<input type="checkbox"/> Gonorrhea*^			
<input type="checkbox"/> Chlamydia*^			
<input type="checkbox"/> Pregnancy*			

*Sexual exposure only; ^Screen all sites of contact; **Only if taking oral PEP

Recommended Regimens for PEP

Adults and adolescents aged ≥ 13 years with normal renal function (creatinine clearance ≥ 60 mL/min), including pregnant women

Preferred Regimens:

- Raltegravir (400 mg twice daily) plus tenofovir DF-emtricitabine (300-200 mg once daily)
- Dolutegravir (50 mg once daily) plus tenofovir DF-emtricitabine (300-200 mg once daily)

Alternative Regimen:

- Darunavir (800 mg once daily) plus ritonavir (100 mg once daily) plus tenofovir DF-emtricitabine (300-200 mg once daily)

Adults and adolescents aged ≥ 13 years with renal dysfunction (creatinine clearance ≤ 59 mL/min)^a

Preferred Regimens:

- Raltegravir (400 mg twice daily) plus zidovudine (dose adjusted) plus lamivudine (dose adjusted)
- Dolutegravir (50 mg once daily) plus zidovudine (dose adjusted) plus lamivudine (dose adjusted)

Alternative Regimen:

- Darunavir (800 mg once daily) plus ritonavir (100 mg once daily) plus zidovudine (dose adjusted) plus lamivudine (dose adjusted)

^aThese recommendations do not reflect current Food and Drug Administration-approved labeling for antiretroviral medications listed in this table.

^bRitonavir is used in clinical practice as a pharmacokinetic enhancer to increase the trough concentration and prolong the half-life of darunavir, lopinavir, and other protease inhibitors. Ritonavir is not counted as a drug directly active against HIV in the above “3-drug” regimens.

^cThe dose adjustments for zidovudine and lamivudine are made based on degree of renal function

Questions?
