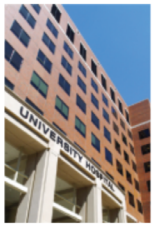
HIV Guidelines Updates

Ellen Eaton, MD, MSPH

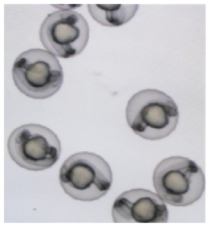
February 2023

UAB MEDICINE










Disclosures

- Dr Eaton reports receiving grants paid to her institution from NIH and Bristol Myers Squibb and receiving consulting fees from Gilead Sciences
- Dr Springer reports receiving grants from the National Institute on Drug Abuse, National Center for Advancing Translational Science, and Veterans Affairs Cooperative Studies Program; receiving consulting fees from Alkermes Inc; and receiving in-kind drug donation from Alkermes Inc (Vivitrol) and Indivior (Sublocade) for NIH-sponsored research

Learning Objectives

- Review the Objectives of the IAS-USA HIV Guidelines
- Review evidence on SUD treatment in HIV
- Discuss updates to HIV Treatment and Prevention

Special Communication

FREE

December 1, 2022

Antiretroviral Drugs for Treatment and Prevention of HIV Infection in Adults

2022 Recommendations of the International Antiviral Society–USA Panel

Rajesh T. Gandhi, MD[1]; Roger Bedimo, MD[2]; Jennifer F. Hoy, MBBS[3]; et al

» Author Affiliations | Article Information

JAMA. 2023;329(1):63-84. doi:10.1001/jama.2022.22246

UAB MEDICINE

Antiretroviral Drugs for the Treatment and Prevention of HIV: 2022 Recommendations of the IAD-USA Panel

- Review new data
- Provide clinicians with updated recommendations
  - Treatment
  - Prevention
  - Laboratory monitoring
  - Aging
  - Substance Use Disorder
  - COVID-19
  - Monkeypox

Evidence Review

- A panel of volunteer expert physician scientists were appointed
- Relevant evidence in the literature
  - PubMed and Embase searches, which initially yielded 7891 unique citations, of which 834 were considered relevant)
  - Studies presented at peer-reviewed scientific conferences between January 2020 and October 2022 were considered

CASE 1.

- 46 yo M admitted to hospital for acute left sided weakness and slurred speech and found to have acute right corona radiata ischemic stroke. HIV + on admission screening test with a CD4 127 and VL 18,000 copies/mL.
- During H&P, reports 7-year history of HIV
- He never sought care as his wife was sick and now is deceased
- Seen by ID consults and agreeable to start BIC/TAF/FTC
- Discharged to Inpatient Rehab for PT/OT

- Day 7, returns from smoking & developed somnolence, decreased RR, AMS
- MET Team called: delivered naloxone, returned to USOH
- Patient reports insufflating fentanyl he received from a friend at bus stop on campus

- Which of the following is a substance use related outcome that could be prevented by integrating substance use screening and treatment into routine care?

A. CVA
B. Delay in ART initiation
C. Failure to engage in HIV treatment
D. Advanced HIV
E. All of the above

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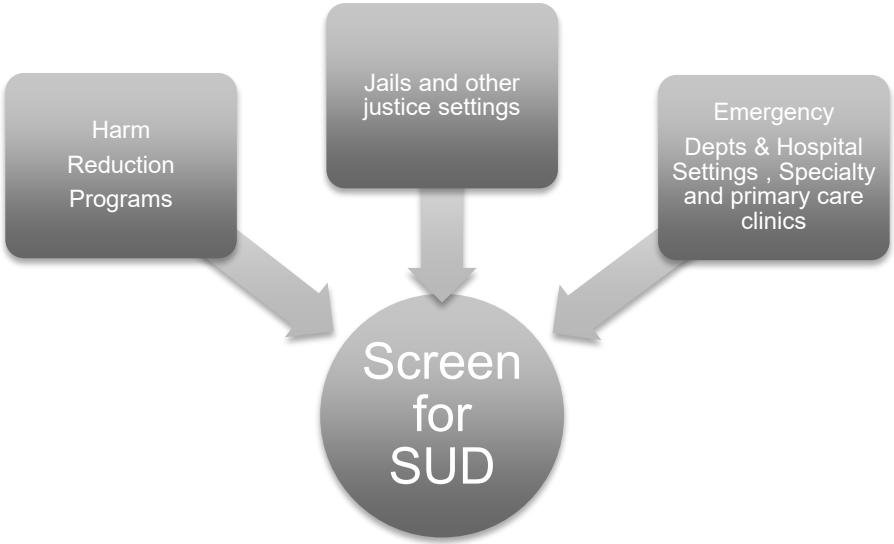
SBIRT: Screening and Brief Intervention and Initiation/ Referral of Medication Treatment for SUD



Initiate Rapid Screening for SUD In high prevalence areas

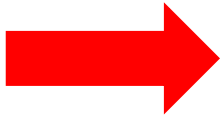
SUD SCREENING TOOLS

NIDA Quick Screen and then reflex to NIDA Alcohol, Smoking and Substance Involvement Screening Test (ASSIST)[1]	**Up to 6 dozen items, depending on "skip outs"**
Drug Abuse Screening Test (DAST)[2]	10 items, no information about drug of concern
Substance Use Brief Screen (SUBS)[3]	4 items, preliminary testing in primary care
Rapid Opioid Dependence Screen (RODS)[4,5]	8 items, good sensitivity/specificity
Michigan Alcohol Screening Test (MAST)[6]	10 items, severity measure
Alcohol Use Disorders Identification Test (AUDIT)[7]	10 items, well-validated

1. World Health Organization. The Alcohol, Smoking and Substance Involvement Screening Test (ASSIST): manual for use in primary care. 2010
2. Skinner, H. A. (1982). "The drug abuse screening test." Addict Behav **7**(4): 363-371.
3. McNeely J, et al,. A Brief Patient Self-administered Substance Use Screening Tool for Primary Care: Two-site Validation Study of the Substance Use Brief Screen (SUBS). Am J Med. 2015
4. Wickersham JA, Azar MM, Cannon CM, Altice FL, Springer SA. Validation of a Brief Measure of Opioid Dependence: The Rapid Opioid Dependence Screen (RODS). J Correct Health Care. 2015 ; 5. Wickersham… Springer . Erratum 2019.
5. Storgaard H, Nielsen SD, Gluud C. The validity of the Michigan Alcoholism Screening Test (MAST). Alcohol 1994
6. Saunders, J. B., et al. (1993). "Development of the Alcohol Use Disorders Identification Test (AUDIT): Addiction **88**(6): 791-804. WHO Collaborative Project on Early Detection of Persons with Harmful Alcohol Consumption--II."

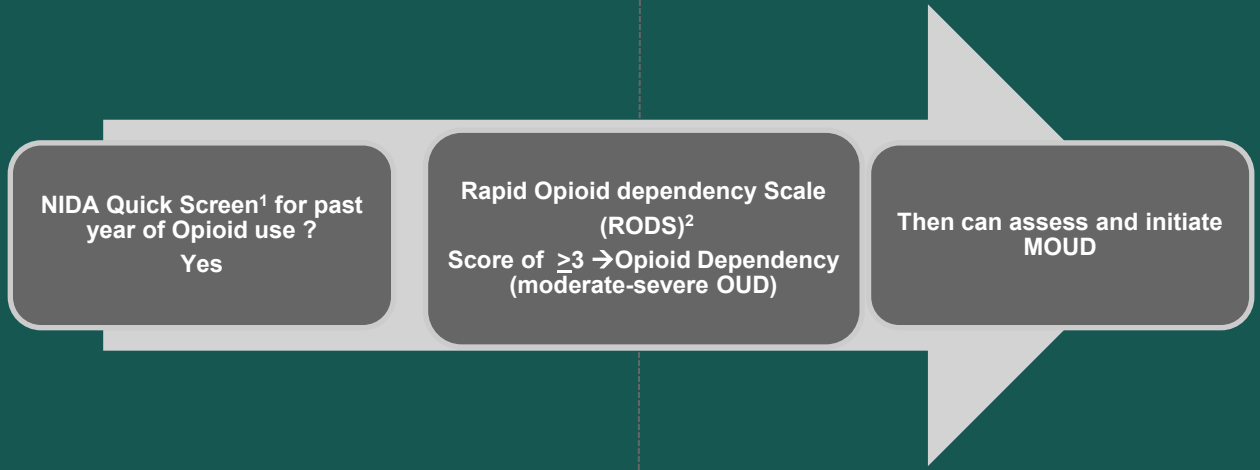
NIDA ASSIST to RODS as example

NIDA Quick Screen (OUD)
In the past year, how often have you used the following?
Prescription drugs for non-medical reasons: ☐ Once or twice ☐ monthly ☐ weekly ☐ daily or almost daily Illicit drugs: ☐ Once or twice ☐ monthly ☐ weekly ☐ daily or almost daily
Reflex positive to NM ASSIST
Adapted from: The National Institute on Drug Abuse. NIDA Drug Screening Tool, NIDA-Modified ASSIST (NM ASSIST). https://www.drugabuse.gov/nmassist/. Accessed November 18, 2019.



Rapid Opioid Dependence Screen (RODS)	
1. Have you ever taken any of the following drugs: Heroin Methadone Buprenorphine Morphine MS Contin Oxycontin Oxycodone Other opioid analgesics (e.g. Vicodin, Darvocet, Fentanyl, etc)	☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No ☐ Yes ☐ No
If no, skip to 'Scoring Instructions'	
2. Did you ever need to use more opioids to get the same high as when you first started using opioids?	☐ Yes ☐ No
3. Did the idea of missing a fix (or dose) ever make you anxious or worried?	☐ Yes ☐ No
4. In the morning, did you ever use opioids to keep from feeing "dope sick" or did you ever feel "dope sick"?	☐ Yes ☐ No
5. Did you ever worry about your use of opioids?	☐ Yes ☐ No
6. Did you ever find it difficult to stop or not use opioids?	☐ Yes ☐ No
7. Did you ever need to spend a lot of time/energy on finding opioids or recover from feeling high?	☐ Yes ☐ No
8. Did you ever miss important things like doctor's appointments, family/friend activities, or other things because of opioids?	☐ Yes ☐ No
Scoring Instructions: Add the number of 'yes' responses for Questions 2 to 8. If total answer is ≥3, RODS screen is positive	
Adapted from: Wickersham JA, Azar MM, Cannon CM, Altice FL, Springer SA. Validation of a Brief Measure of Opioid Dependence: The Rapid Opioid Dependence Screen (RODS). Journal of correctional health care. 2015;21(1):12-26. Contact: Sandra.springer@yale.edu for questions.	

Screening for OUD
Measurement Based Care (MBC)



1. NIDA. Resource Guide: Screening for Drug Use in General Medical Settings. 2012.
2. Wickersham et al, **Springer** S. RODS. J Correctional Health Care. 2014.
3. Springer et al . JUH. 2010.
4. Springer et al. PLOS ONE. 2012.
5. Springer et al. JAIDS 2018;
6. DiPaola a et al. Springer. CCT 2014
7. Marsden et al, Addiction. 2019

CASE 2.

- 46 yo M admitted to hospital for acute left sided weakness and slurred speech and found to have acute right corona radiata ischemic stroke, HIV and OUD. He was successfully resuscitated with naloxone after an in-hospital overdose on insufflated fentanyl. What is the next best step?

- A. Refer him to a methadone clinic on discharge
- B. Offer him buprenorphine/naloxone now
- C. Prescribe long-acting naltrexone
- D. None of the above, he is still on morphine for headache after CV

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FDA-Approved Medications for Treatment of Opioid Use Disorders

	Methadone	Buprenorphine	Extended-release Naltrexone
Mechanism of Action	Full μ agonist	Partial μ agonist, Partial κ antagonist	Full μ antagonist
Delivery	Oral	Sublingual, film, implant, injection*	Injection
Frequency	Daily	Daily oral; monthly injection; implant 6 months	monthly
Setting	Licensed drug treatment program	PCC/HIV care setting	PCC/HIV care setting (no special licensing)
Other	1. Highly structured due to safety concerns. 2. OD potential 3. Interacts with some ARVs 4. Reduces HIV Risk Behaviors 5. Reduces Overdose (OD)	1. Safer than methadone, without major OD potential 2. Less interactions with ARVs 3. Reduces HIV Risk Behaviors 4. Reduces OD **5. Improves HIV Viral Suppression (VS)**	1. Also treats Alcohol Use disorders 2. Adherence advantage 3. NO overdose or diversion concerns 4. Reduces HIV Risk Behaviors 5. Reduces Overdose **6. Improves VS*[2,3]**

1. Springer et al. Plos One 2012. ; 2. Springer S. JAIDS 2018; 3. Springer JAIDS 2018

Open Forum Infectious Diseases

REVIEW ARTICLE

Beyond Antibiotics: A Practical Guide for the Infectious Disease Physician to Treat Opioid Use Disorder in the Setting of Associated Infectious Diseases

Nikhil Seval,[1] Ellen Eaton,[3] and Sandra A. Springer[1,2] 2020

[1]Department of Internal Medicine, Section of Infectious Diseases, AIDS Program, Yale School of Medicine, New Haven, Connecticut, USA [2]Center for Interdisciplinary Research on AIDS, Yale University School of Public Health, New Haven, Connecticut, USA [3]Department of Medicine, Division of Infectious Disease, University of Alabama at Birmingham, Birmingham, Alabama, USA

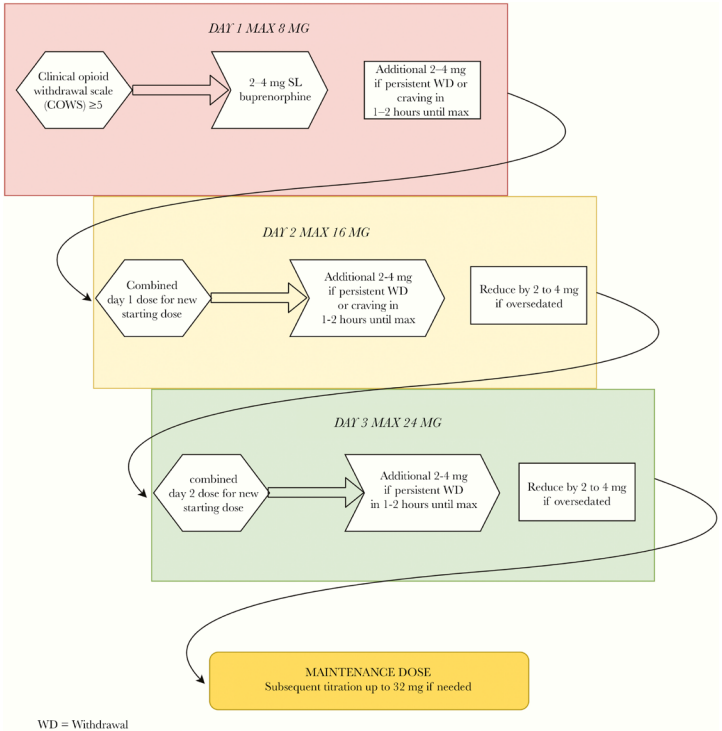
Timing of Buprenorphine Initiation- Assess for Opioid Withdrawal

Table 5. Clinical Opiate Withdrawal Scale (COWS)

Resting Pulse Rate (Beats per minute) ◯ 0 = pulse rate <80 ◯ 1 = pulse rate 81–100 ◯ 2 = pulse rate 101–120 ◯ 4 = pulse rate greater than 120	GI Upset (in past ½ hour) ◯ 0 = no GI symptoms ◯ 1 = stomach cramping ◯ 2 = nausea/loose stools ◯ 3 = vomiting/diarrhea ◯ 5 = multiple episodes of diarrhea or vomiting
Sweating (in past ½ hour) ◯ 0 = No report of chills or flushing ◯ 1 = Subjective report of chills or flushing ◯ 2 = Flushed or observable moistness on face ◯ 3 = Beads of sweat on brow or face ◯ 4 = Sweat streaming off face	Tremor ◯ 0 = no tremor ◯ 1 = tremor can be felt, but not observed ◯ 2 = slight tremor observable ◯ 4 = gross tremor/muscle twitching
Restlessness ◯ 0 = able to sit still ◯ 1 = subjective difficulty sitting still but able to do so ◯ 3 = frequent shifting/movement of hands/arms ◯ 5 = unable to sit still for more than a few seconds	Yawning ◯ 0 = no yawning ◯ 1 = yawning once or twice during assessment ◯ 2 = yawning 3 or more times during assessment ◯ 4 = yawning several times a minute
Pupil Size ◯ 0 = pupils pinned or normal size for room light ◯ 1 = pupils possibly larger than normal for room light ◯ 2 = pupils moderately dilated ◯ 5 = pupils dilated, only rim of iris visible	Irritability/Anxiety ◯ 0 = none ◯ 1 = subjective increased irritability/anxiousness ◯ 2 = patient obviously irritable/anxious ◯ 4 = irritability/anxiousness makes assessment difficult
Muscle/Bone/Joint Aches ◯ 0 = not present ◯ 1 = mild diffuse discomfort ◯ 2 = patient reports severe diffuse aching of joints/muscles ◯ 4 = patient rubbing joints/muscles and unable to sit still due to discomfort	Piloerection ◯ 0 = skin is smooth ◯ 3 = piloerection of skin can be felt, arm hair standing up ◯ 5 = prominent piloerection
Rhinorrhea/Lacrimation ◯ 0 = not present ◯ 1 = nasal stuffiness/unusually moist eyes ◯ 2 = nose running or tearing ◯ 4 = nose constantly running or tears streaming down cheeks	Total: Score: 5–12 = mild; 13–24 = moderate; 25–36 = moderately severe; greater than 36 = severe

Adapted from Wesson DR and Ling W. The Clinical Opiate Withdrawal Scale (COWS). *J Psychoactive Drugs*. 2003;35:253–9.

Figure 1. Flow diagram for sublingual buprenorphine induction in persons with active opioid addiction.



Most need ≥ 16 mg Buprenorphine/24 hrs

Ok to start higher dose if in moderate withdrawal

Open Forum Infect Dis, Volume 7, Issue 1, January 2020, ofz539, https://doi.org/10.1093/ofid/ofz539

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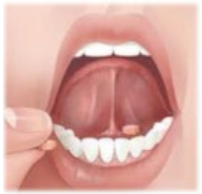
Buprenorphine Induction



Day	Total dose
1	0.25 mg
2	0.5 mg
3	1 mg
4	2 mg
5	4 mg
6	8 mg
7	12 mg

Rozylo, J., Mitchell, K., Nikoo, M. *et al.* Case report: Successful induction of buprenorphine/naloxone using a microdosing schedule and assertive outreach. *Addict Sci Clin Pract* **15**, 2 (2020). https://doi.org/10.1186/s13722-020-0177-x

Case 3.

46 yo M with HIV, OUD and recent CVA arrives at your HIV clinic for hospital follow up. You note that he was started on buprenorphine/naloxone (8mg/2mg) during his admission and is now taking 3 tabs daily. He reports he is doing well with his OUD and has not taken any non-medical opioids; reports occasional crack cocaine usage. Which of the following is associated with continued buprenorphine/naloxone or other MOUD?

A. Improved Viral Load Suppression
B. Improved Quality of Life
C. Reduction in Overdose Risk
D. All of the above

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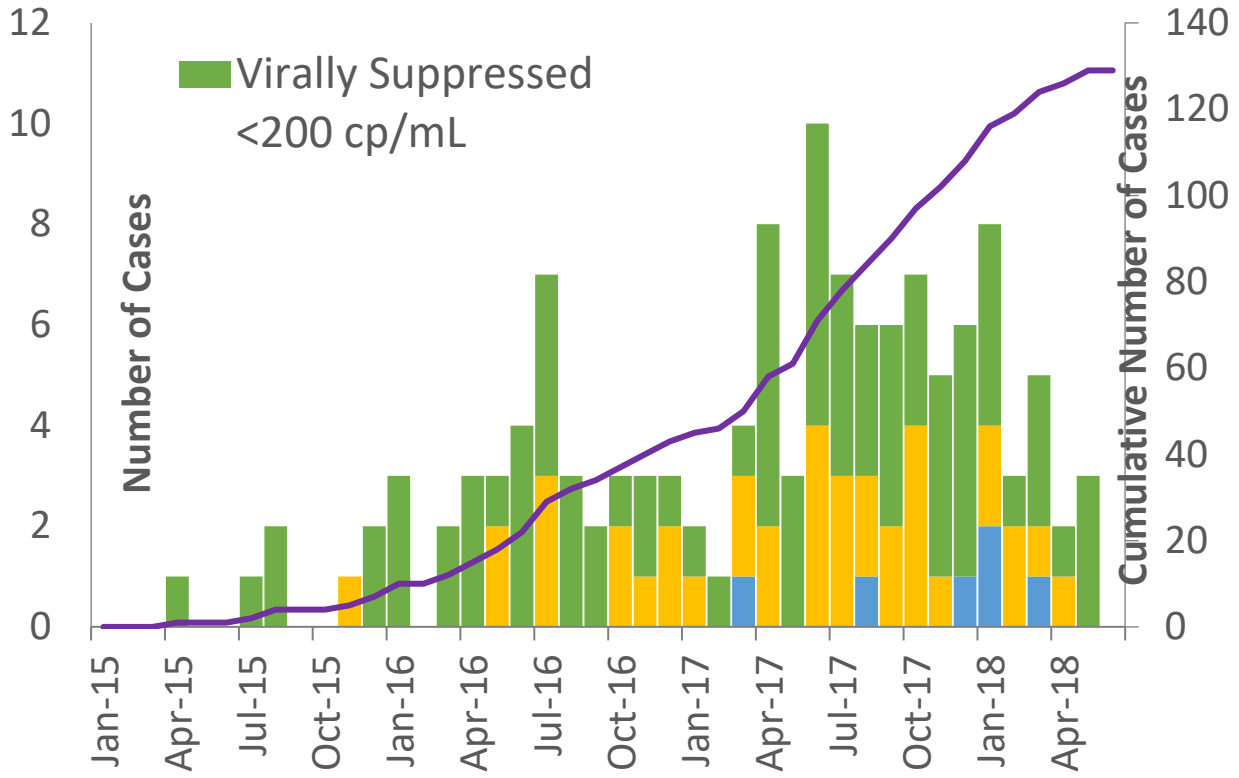
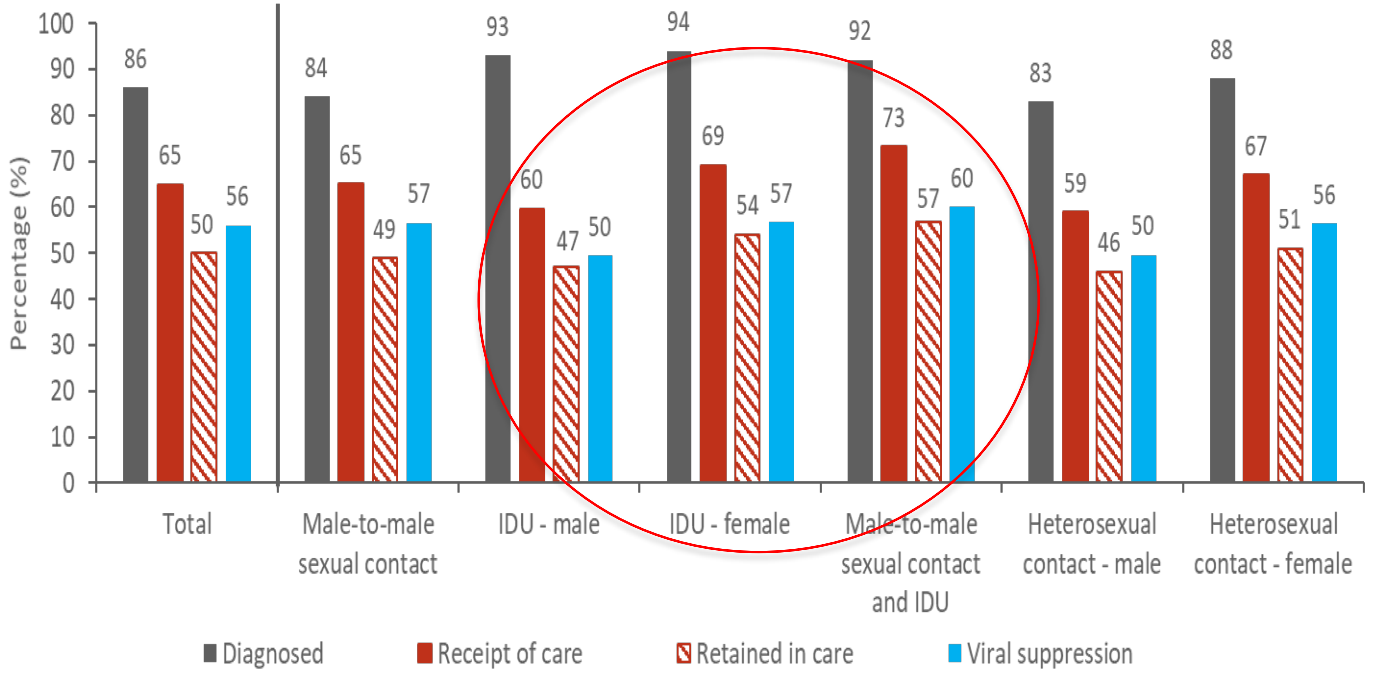
Sub-optimal Viral Suppression among HIV Cluster Cases in Lowell/Lawrence, Mass (2015-18)



Persons Living with Diagnosed or Undiagnosed HIV Infection
HIV Care Continuum Outcomes, by Transmission Category, 2018—United States



Note. Receipt of medical care was defined as ≥1 test (CD4 or VL) in 2018. Retained in continuous medical care was defined as ≥2 tests (CD4 or VL) ≥3 months apart in 2018. Viral suppression was defined as <200 copies/mL on the most recent VL test in 2018. Heterosexual contact is with a person known to have, or be at high risk for, HIV infection. IDU, injection drug use

Journal of Urban Health: Bulletin of the New York Academy of Medicine, Vol. 87, No. 4
doi:10.1007/s11524-010-9438-4
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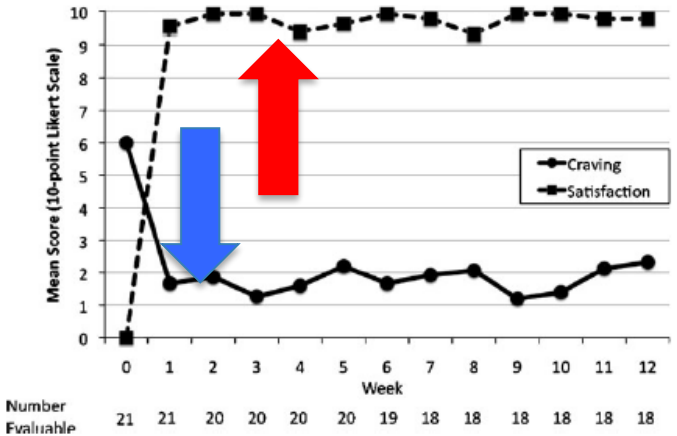
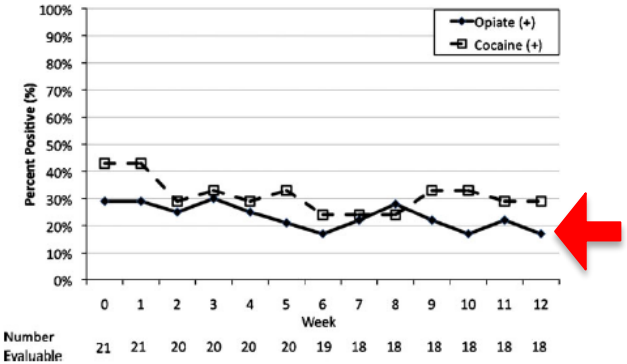
Improved HIV and Substance Abuse Treatment Outcomes for Released HIV-Infected Prisoners: The Impact of Buprenorphine Treatment

Sandra Ann Springer, Shu Chen, and Frederick L. Altice

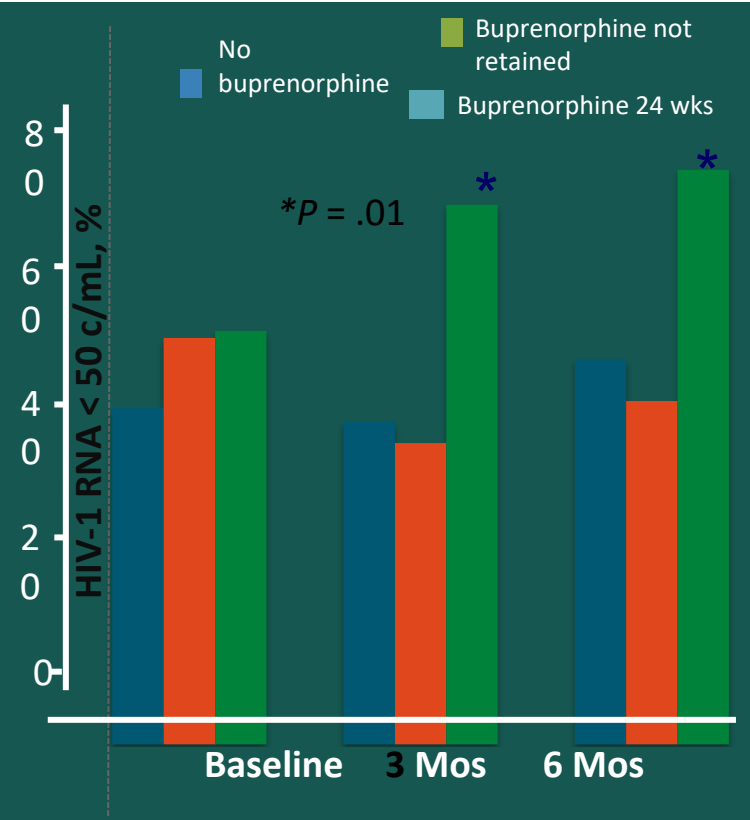




Medication Treatment for OUD Improves HIV Viral Suppression Rates:

Buprenorphine

- 94 PLWH & OUD released from prison
- Retention on buprenorphine for 24 wks ≈ Viral suppression 6 months after release
- aOR: 5.37 (95% CI: 1.15-25.1)

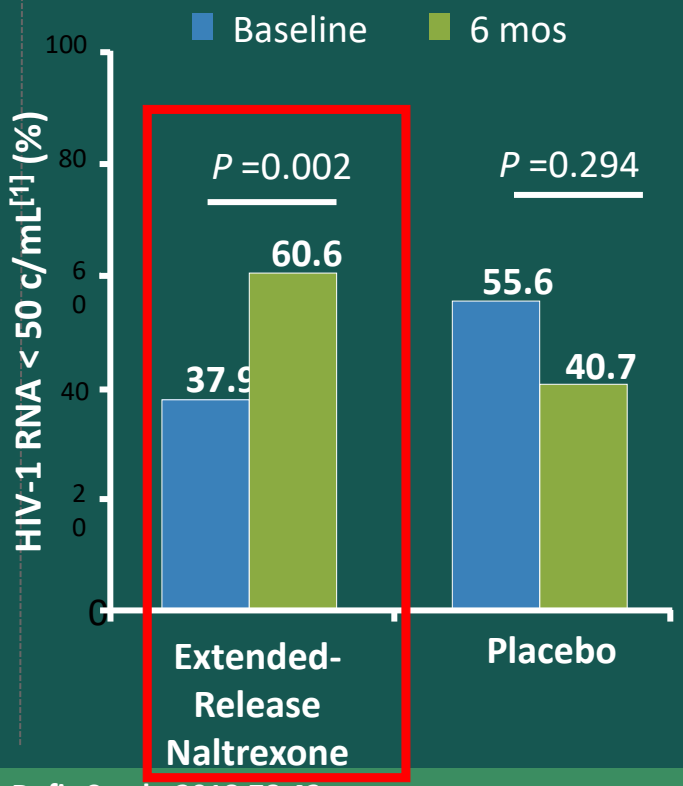


Springer. PLoS One. 2012;7:e38335.

Medication Treatment for OUD Improves HIV Viral Suppression Rates:

Extended-Release Naltrexone

- 93 PLWH & OUD released from incarceration[1]
- Extended-release naltrexone ≈ Viral Suppression 6 mos after release[1]
  - OR: 2.9 (95% CI: 1.04-8.14; *P* =0 .04)



1. Springer S, et al. J Acquir Immune Defic Syndr. 2018;78:43..

A Systematic Review and Meta-Analysis of Studies Evaluating the Effect of Medication Treatment for Opioid Use Disorder on Infectious Disease Outcomes

Katelyn F McNamara, BS, Breanne E Biondi, MPH, Raúl U Hernández-Ramírez, PhD, Noor Taweh, Alyssa A Grimshaw, MSLIS, Sandra A Springer, MD

Open Forum Infectious Diseases, ofab289,
https://doi.org/10.1093/ofid/ofab289
Published: 02 June 2021 **Article history**

- MOUD was associated with :
- Greater ART Adherence OR 1.55, 95%CI 1.12-2.10
- HIV Viral Suppression OR 2.19, 955 CI 1.88-2.56

Extended-release Naltrexone Improves Viral Suppression Among Incarcerated Persons Living with HIV and Alcohol use Disorders Transitioning to the Community: Results From a Double-Blind, Placebo-Controlled Trial

Sandra A. Springer, MD,† Angela Di Paola, MS,‡ Russell Barbour, PhD,† Marwan M. Azar, MD,* and Frederick L. Altice, MD*†§‖*

XR-NTX improves Viral suppression among PWH with Alcohol Use Disorders too!

S.Springer et al. JAIDS 2018

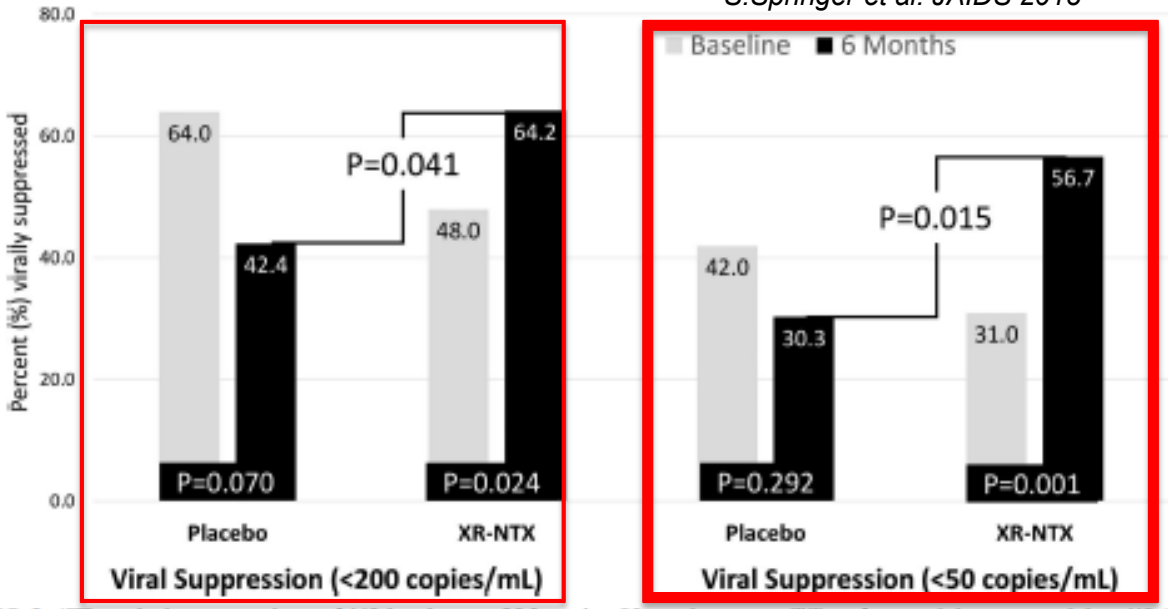


FIGURE 2. ITT analysis: comparison of VS levels at <200 and <50 copies per milliliter for participants receiving XR-NTX or placebo (N = 100).

HIV and OUD Comanagement

- Methadone and buprenorphine primarily metabolized by CYP3A4[1]
- Few DDIs between OUD treatment medications and recommended initial ART regimens[2,3]
- Potential DDIs between buprenorphine and ATV, DRV, EFV[3]

No interaction expected Potential weak

HIV Regimen[2,3]	Buprenorphine	Methadone	Naltrexone
Lamivudine (3TC)			
Abacavir (ABC)			
Bictegravir/emtricitabine/tenofovir alafenamide (BIC/FTC/TAF)			
Dolutegravir (DTG)			
Emtricitabine/tenofovir alafenamide (FTC/TAF)			
Emtricitabine/tenofovir disoproxil fumarate (FTC/TDF)			
Raltegravir (RAL)			

Slide credit: clinicaloptions.com

HCV and OUD Comanagement

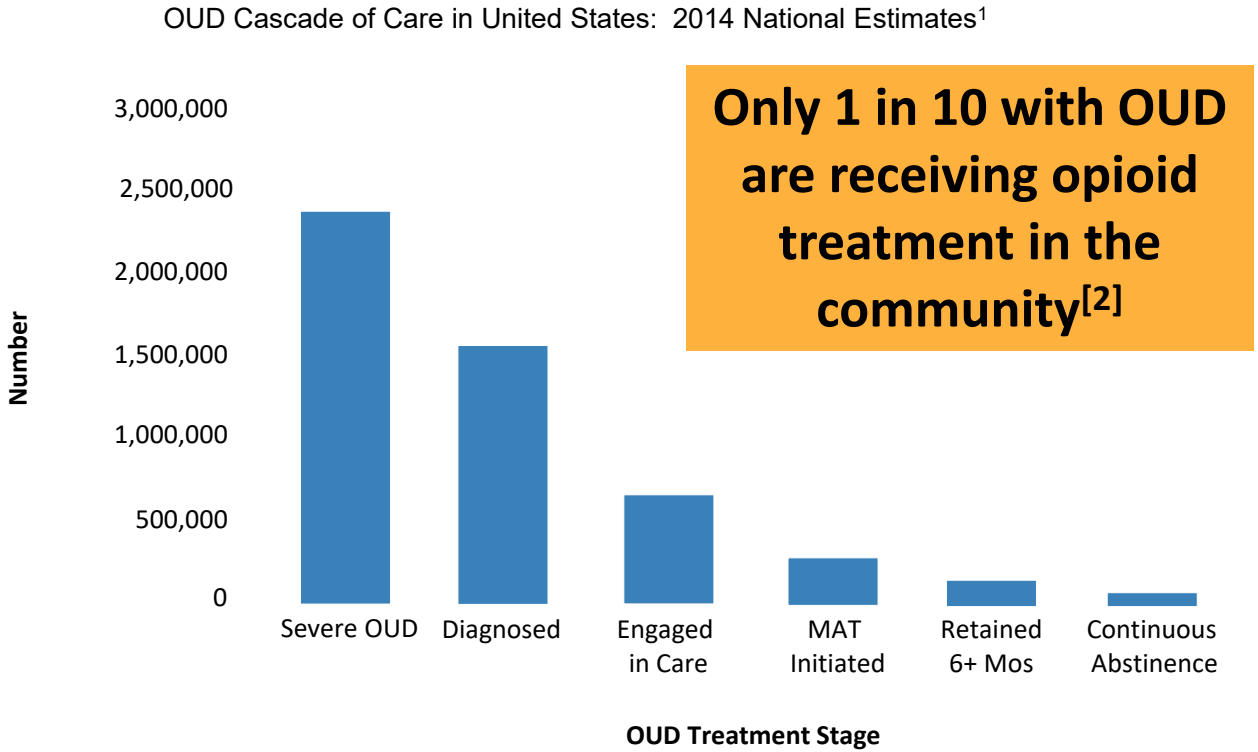
- No DDIs between medications for OUD treatment and recommended HCV regimens
- Patient should be counseled on HCV reinfection risk after HCV cure and strategies for preventing reinfection
  - If HCV reinfection occurs, it should be treated **promptly** because it is marker for ongoing transmission risk

No interaction expected

HCV Regimen	Buprenorphine	Methadone	Naltrexone
Elbasvir/grazoprevir			
Glecaprevir/pibrentasvir			
Ledipasvir/sofosbuvir			
Sofosbuvir/velpatasvir			
Sofosbuvir/velpatasvir/voxilaprevir			

Slide credit: clinicaloptions.com

But…Few Receive Medication Treatment for OUD and fewer are Retained on Treatment…



1. Williams. https://academiccommons.columbia.edu/doi/10.7916/D8RX9QF3.
2. O'Donnell. Mo Med. 2017;114:181

Case 4

- A 46 yo M with HIV and OUD is doing well on his ART and MOUD but reports that he has gone from occasional stimulant use (smoked cocaine) to methamphetamines and is now injecting multiple times weekly. What is the appropriate next step?

A. Stop his MOUD as he no longer has an indication
B. Stop his MOUD and offer him contingency management
C. Switch his MOUD to extended-release naltrexone
D. Continue MOUD and provide harm reduction, naloxone
E. Continue MOUD and offer contingency management

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E. Continue MOUD and offer contingency management.

Stimulant use disorder Treatment

- Unfortunately, there are no FDA approved effective medications for treatment of cocaine and methamphetamine use disorder
- Behavioral treatments are the recommended treatment
  - Most effective has been Contingency Management programs that can reduce stimulant use
- Offer other harm reduction tools for persons who use stimulants
  SSPs, safe injection kits, drug testing (contamination of stimulant supply with fentanyl and xylazine)
- Offer naloxone to reduce risk of death from fentanyl / opioids contaminating stimulant supply
- Educate about xylazine contamination and risk of overdose from stimulants alone

What else do PWUD who we see need?

- Low-barrier access to HIV & SUD prevention and treatment services in community settings
- Bringing services to people in need, rather than expecting them to come to us in traditional clinics
- Low-cost/ rapidly scale-up approaches
  - Community health workers
  - Patient/ Peer navigators
  - Pharmacists
  - Telehealth with specialists
  - Visiting Nurses- home care model
  - Mobile health units and other non-traditional clinic settings
  - Increasing use of long-acting injectable PrEP, ART, & MOUD –& combinations of these treatments

Key Recommendations for Substance Use and HIV

- Provide screening and treatment for substance use disorders to all persons at risk for and living with HIV (evidence rating: AIa)
- Substance use treatment should be integrated into HIV prevention and treatment services (evidence rating: AIa)
- Persons with substance use disorders and HIV infection or risk for HIV should receive integrated addiction treatment with:
  - Pharmacotherapy for opioid and alcohol use disorders (evidence rating: AIa)
  - Contingency management for stimulant use disorders (evidence rating: AIII)

Key Recommendations for Substance Use and HIV

- Persons with opioid use and alcohol use disorders should be offered timely initiation of medications for substance use disorder regardless of HIV and HCV treatment plans (evidence rating: AIa)
- Peer/patient support staff, telehealth, extended hours, mobile clinics, and walk-in clinic options should be available to persons with substance use disorders who are receiving HIV treatment or prevention (evidence rating: AIIb)
- Peer/patient support staff, mobile health units, and pharmacy delivery services should be available to persons with substance use disorders who are receiving HIV treatment or prevention (evidence rating: AIIb)

When to Start

- Initiate ART as soon as possible, ideally within 7 days
  - Start on same day if suspicion for acute HIV
  - Start on same day if no suspicion for an OI

- Identify structural barriers that can impede engagement, retention
  - Housing, transportation

- If OI is suspected, initiate ART within 14 days
  - For cryptococcal meningitis, initiate 2-4 wks of starting antifungals

Box 1. Key Recommendations for When to Start Antiretroviral Therapy (ART)

- Initiation of ART is recommended as soon as possible after diagnosis, ideally within 7 days, including on the same day as diagnosis or at the first clinic visit if the patient is ready and there is no suspicion for a concurrent opportunistic infection (evidence rating: AIII)
- Structural barriers that could delay receipt of ART (including same-day), and impede care engagement, continuous ART access, and ART adherence should be identified and addressed using evidence-informed strategies (evidence rating: AIIa)
- Initiation of ART at the time of diagnosis of acute HIV infection is recommended (evidence rating: AIIa)
- Initiation of ART is recommended within 2 weeks of initiation of treatment for most opportunistic infections
    - For persons with active tuberculosis without evidence of tuberculous meningitis, ART should be initiated within 2 weeks after initiation of tuberculosis treatment, especially for those with CD4 cell count less than 50/μL (evidence rating: AIa)
    - For those with tuberculous meningitis, high-dose steroids should be initiated along with tuberculosis treatment and ART should be initiated within 2 weeks after starting tuberculosis treatment and steroids (evidence rating: BIa)
    - For individuals with cryptococcal meningitis with access to close monitoring and supportive care for adverse events, ART should be initiated 2 to 4 weeks after starting antifungal therapy (evidence rating: BIIb); ART-naive individuals who have asymptomatic cryptococcal antigenemia and a negative lumbar puncture result with no evidence of cryptococcal meningitis should start ART immediately (evidence rating: BIII)
    - Initiation of ART is recommended immediately in the setting of a new diagnosis of cancer with attention to drug-drug interactions (evidence rating: BIIa)

Initial ART Selection

- For most patients:
  - BIC/TAC/FTC
  - Dolutegravir, TXF/XTC
  - DTG/3TC
    - Only if VL <500,000
    - HBV negative
    - Genotype known

Special Considerations in ART Selection

- People who acquire HIV while on PrEP
  - Genotype, prefer Bictegravir or Dolutegravir plus 2 active agents
- Pregnancy
  - Dolutegravir, TXF/XTC
  - Other options if Dolutegravir not available
    - Raltegravir, Atazanavir, Darunavir, Rilpivirine

Switching Regimens

- Switching to 2-Drug Regimen in VL suppression
  - Know HBV status
  - No need for genotype unless history of treatment failure
- Switching to LA Cabotegravir and Rilpivirine (4wk or 8wk)
  - Oral lead in can ensure tolerability
  - Not recommended in those with viremia
- Switching due to Virologic Failure (VL>200 copies/mL)
  - Genotype resistance while on failing regimen

Laboratory Monitoring

- Labs should be obtained before treatment
  - Do not have to wait for results, delay ART start

Table 3. Recommendations for Laboratory Monitoring for Persons With HIV

Description of monitoring	At HIV diagnosis and start of ART	During ART	At virologic failure
HIV RNA level	Yes (evidence rating: AIII)	Every 3 mo until suppressed and then every 6 mo (evidence rating: AIa)	Yes (evidence rating: AIa)
CD4 cell count	Yes (evidence rating: AIII)	Every 6 mo until >250 cells/uL for 1 y, then stop provided viral suppression is maintained (evidence rating: BIII)	Yes (evidence rating: AIII)
HIV RT-pro genotype test	Yes (evidence rating: AIII)	If switching to injectable ART when patient has viral suppression, proviral RT-pro genotype can be collected for those who do not have a documented pre-ART RT-pro genotype (evidence rating: BIII)	Yes (evidence rating: AIa)
HIV integrase genotype test	If a patient's partner is known to have a failing ART regimen that includes an InSTI or individual has received cabotegravir for PrEP (evidence rating: BIII)		If failing ART regimen included an InSTI (evidence rating: AIII)
Viral tropism test			Before start of maraviroc (evidence rating: AIa)
HLA B*5701 test	Before start of abacavir (evidence rating: AIa)		
Cryptococcal antigen test if CD4 cell count <100 cells/μL	Yes (evidence rating: AIa)		
Safety laboratory and coinfection screening (eg, STIs, viral hepatitis)	Yes (evidence rating: AIa)	Yes (evidence rating: AIII)	Yes (evidence rating: AIII)

Abbreviations: ART, antiretroviral therapy; InSTI, integrase strand transfer inhibitor; PrEP, preexposure prophylaxis; RT-pro, reverse transcriptase–protease; STI, sexually transmitted infection.

Weight Gain and Metabolic Complications

- Weight gain typically occurs in first year
  - InSTI and TAF-based regimens >> weight gain
- Weight gain can occur in new starts, switch, or PrEP use
- Greater weight gain in women and Black and Hispanic
- Dolutegravir related weight gain is higher with TAF use

Box 3. Weight Gain and Metabolic Complications While Receiving Antiretroviral Therapy (ART)

- Documentation of weight and BMI at baseline and every 6 months is recommended for people with HIV initiating or switching regimens to identify those with excessive weight gain (evidence rating: AIIa)
- Counseling regarding possibility of weight gain and potential cardiometabolic complications is recommended for people with HIV initiating or switching ART (evidence rating: AIII)
- Yearly diabetes screening and assessment of cardiovascular risk score of patients receiving InSTI-based ART is recommended (evidence rating: BIII)
- Lifestyle changes (exercise and diet) are recommended to support people with HIV who gain greater than 5% body weight (evidence rating: AIII)

Abbreviations: BMI, body mass index; InSTI, integrase strand transfer inhibitor.

Aging and HIV

- > 50% of older PWH diagnosed at a late stage
- PWH are aging

New HIV Diagnoses in the US and Dependent Areas[a] by Age at Diagnosis, 2020

Age (Years)	Number of Diagnoses
13-14	12
15-19	1,256
20-24	4,867
25-29	6,103
30-34	5,233
35-39	3,445
40-44	2,540
45-49	2,094
50-54	1,883
55-59	1,599
60-64	901
65 and older	702

Data for 2020 should be interpreted with caution due to the impact of the COVID-19 pandemic on access to HIV testing, care-related services, and case surveillance activities in state and local jurisdictions.

Box 4. Recommendations for Older People With HIV

- Screening for HIV is recommended in older individuals to prevent late diagnosis with advanced disease (evidence rating: AIIa)
- Initiation of ART is recommended as soon as possible after diagnosis, either the same day of diagnosis, first clinic visit, or within 7 days. Assessment of comorbidities, kidney function, and medications will influence the choice of ART (evidence rating: AIa)
- Assessment of polypharmacy and simplification of complex regimens, both ART and comorbidity treatments, is recommended to improve adherence, prevent adverse drug-drug interactions, reduce falls risk, and reduce costs (evidence rating: AIIb)
- Screening for comorbidities, impaired cognitive and function, poor mobility, frailty, and falls risk is recommended for older people with HIV, using validated tools. The frequency of assessment is determined by the baseline assessment (evidence rating: BIII)[1]
- Consideration of integrated care models and Antiretroviral Stewardship models is recommended to improve outcomes and quality of life for people aging with HIV (evidence rating: BIII)

Abbreviation: ART, antiretroviral therapy.

HIV Prevention

- *The optimal PrEP regimen for a given person is the one most acceptable to that person and congruent with their sexual behavior, ability to take medications reliably, likelihood of anticipating sexual activity, and adverse effect profile.*
- The best PrEP option is the one your patient will take

HIV Prevention

On Demand or 2-1-1 oral dosing
2-1-1 dosing is initiated with a double dose 2 to 24 hours before planned sexual activity and single additional doses 24 and 48

Table 4. Recommendations for Biomedical HIV Prevention by Population and Transmission Risk Behavior[a]

	TDF/FTC (evidence rating)[b]		Daily oral TAF/FTC (evidence rating)	Intramuscular cabotegravir (evidence rating)
	Daily oral	On-demand oral		
Cisgender men/women				
Insertive sex (vaginal/anal)	Yes (AIa)	Yes (BIa)	Yes (AIa)	Yes (AIa)
Receptive vaginal sex	Yes (AIa)	Insufficient data	Insufficient data	Yes (AIa)
Receptive anal sex	Yes (AIa)	Yes (AIa)	Yes (AIa)	Yes (AIa)
Injection drug use (if sexual risk as well, apply appropriate category above)[c]	Yes (AIa)	Insufficient data	Insufficient data	Insufficient data
Transgender women				
Insertive sex (vaginal/anal)	Yes (AIa)	Yes (AIII/CIII)[d]	Yes (AIa)	Yes (AIa)
Receptive (neo) vaginal sex	Yes (BIII)	Insufficient data	Insufficient data	Yes (BIII)
Receptive anal sex	Yes (AIa)	Yes (AIII/CIII)[d]	Yes (BIa)	Yes (AIa)
Injection drug use (if sexual risk as well, apply appropriate category above)[c]	Yes (AIa)	Insufficient data	Insufficient data	Insufficient data

Thank You!