HIV 101: Primary Care for People with HIV

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HIV Primary Care Guidance Panel
Atlanta, GA

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Pretest Question #3
Which is TRUE about screening and/or treatment of hyperlipidemia in persons with HIV?
1. CD4 count < 200/µL is as strong a risk factor for cardiovascular disease as hypertension
2. All persons with HIV should be on a statin, regardless of LDL cholesterol level
3. Lovastatin and simvastatin are preferred statins in people taking protease inhibitors
4. Prolonged HIV viremia increases cardiovascular risk, and requires adjustment of the risk calculator score
Hepatitis B Vaccination in Adults

- Immunize if HBsAg & HBsAb negative or HBsAb < 10 mIU/mL
- If isolated HBsAb positive, repeat entire series or give 1 booster and measure response in 1-2 mo (should be >100 mIU/mL)
- Responses may be reduced if CD4 cell count < 200/µL or unsuppressed HIV-1 RNA
- Decision to delay until CD4 rise or virus suppressed depends on hepatitis risk
- Ideally vaccinate while CD4 > 350/µL
- Repeat HBsAb 1-2 mo after vaccination or at next visit
- HBsAb level should be ≥ 10 mIU/mL

Hepatitis B Vaccines: Dosing

3 doses: give at 0, 1, and 6 mo
- If 4 doses, give at 0, 1, 2, & 6 mo
- Recombivax HB® 10, 20, or 40 µg/dose
- Engerix-B® 20 or 40 µg/dose

Two doses 1 month apart
- Heplisav-B® 20 µg/dose (recombinant, CpG adjuvant)

Twinrix® Inactivated hepatitis A 720 ELU & recombinant hepatitis B 20 µg at 0, 1, & 6 months OR at days 0, 7, 21-30, & 12 mo

2 vs 3 Dose HBV Vaccine: Heplisav-B® Package Insert

The virtual 2021 Ryan White HIV/AIDS Program (RWHAP) CLINICAL CONFERENCE, October 3-6, 2021
Preconference Virtual Session
Hepatitis B Re-vaccination in Adults

1. If HBsAb level < 10 mIU/mL at least 1 mo after full series
   • Give second series of 3 doses of recombinant vaccine using standard or 40 mcg doses at 0, 1, and 6 mo; OR
   • Give second series 4 doses of recombinant vaccine using standard or 40 mcg doses at 0, 1, 2, and 6 mo
   • Give 2 dose recombinant CpG adjuvant vaccine at 0, 1 mo
   • Small study showed better response rate, higher antibody levels when using recombinant vaccine 40 mcg vs 20 mcg, both given at 0, 1, 2 mo

Notes:
- ACIP Guidelines, updated 6/12/2017: https://www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6636a1.pdf

Pneumococcal Vaccination in Adults

Two vaccines
- Pneumococcal conjugate (PCV13)
- Pneumococcal polysaccharide (PPV23 or PPSV23)

• Give PCV13 upon diagnosis regardless of CD4 count
• Give PPV23 at least 8 weeks after PCV13
  • Can wait until CD4 > 200/µL on ART
• Give 2nd dose of PPV23 five years later
• Give 3rd & final PPV23 dose after age 65, at least 5 yrs after last dose
• If 1st dose was PPV23 rather than PCV13, give PCV 13 at least 1 year after PPV23

Notes:
- ACIP Guidelines, updated 6/12/2017: https://www.cdc.gov/mmwr/volumes/66/wr/pdfs/mm6636a1.pdf

SARS CoV-2 Vaccination in Persons with HIV

• All approved vaccines are safe and effective for persons with HIV
• All people with HIV aged 12 and older should be vaccinated following CDC/FDA recommendations
• As with other vaccines, response may be less robust if CD4 < 200/µL

- On Aug. 12, FDA amended Pfizer, Moderna EUs to recommend 3rd mRNA dose for people with moderate-severe immune compromise including advanced or uncontrolled HIV
- Moderna or Pfizer: 3rd doses for PWI with advanced or uncontrolled HIV
  • If Pfizer series, 1st dose of Pfizer (age ≥ 12 yr), ≥ 28 days after 2nd vaccine
  • If Moderna series, 3rd dose of Moderna (age ≥18 yr), ≥28 days after 2nd vaccine
  • If B.1.1.529 variant: wait for further recommendations

Notes:
Booster recipients **ONLY**: eligible for Pfizer booster ≥ 6 mo after 2nd vaccine
- ≥ 65 years old or those in long-term care settings: **SHOULD** get booster
- PWH aged 50–64 y.o: **SHOULD** get booster (underlying medical condition)
- PWH aged 18-49 y.o: **MAY** get booster (underlying medical condition)
- If Moderna or J & J primary vaccination: wait for future recs [soon, please!]
- **OMG!** What a great topic to chat about in the Q & A!! (Hint...)
Cancer Screening for People with HIV

- Prostate, breast, lung, colon cancer screening: follow general population guidelines from USPSTF and American Cancer Society
- Anal cancer screening\(^1\)
  - Digital anorectal exam annually if asymptomatic
  - For those having receptive anal sex: periodic anal cytology by anal Pap test if access to referral and high-resolution anoscopy is available
  - Utility of anal Pap screening being tested in NIH ANCHOR study

\(^1\)Thompson, et al. Primary Care Guidance for Persons With HIV. 2020 Update. Available at HIVMA.org under Guidelines

Cervical cancer screening\(^1\)
- 1st Pap w/in 1 yr of sexual debut or at HIV dx, at least by 21 yo
- 21-29 yo: Annual Pap until 3 consecutive normal, then every 3 yrs if normal: HPV testing not recommended
- ≥ 30 yo: Annual Pap until 3 consecutive normal, then every 3 yrs if normal
  - If HPV co-testing done with Pap and both are negative, Pap with HPV can be done every 3 years after a single Pap test
  - Colposcopy if abnormal Pap or normal Pap + persistent positive HPV
  - No upper age for stopping Pap testing in persons with HIV

Screening for and Managing Metabolic and Other Noncommunicable Diseases
Women < 25 yo With HIV Accumulate NACM Faster Than Those Without HIV

Approach to Comorbidities: Increased Awareness, Early Intervention

- Smoking
- SMOKING
- SMOKING
- SMOKING
- SMOKING

JAHA
Journal of the American Heart Association

Cigarette Smoking, Incident Coronary Heart Disease, and Coronary Artery Calcification in Black Adults: The Jackson Heart Study

CONCLUSIONS: In a large prospective cohort of Black adults, current smoking was associated with a >2-fold increased risk of CHD over a median follow-up of greater than a decade.
**AHA SCIENTIFIC STATEMENT**

**Characteristics, Prevention, and Management of Cardiovascular Disease in People Living With HIV**

A Scientific Statement From the American Heart Association

- Recognizes increased ASCVD risk in persons with HIV
  - 1.5-2x increase in MI, stroke, heart failure
  - Increased pulmonary HTN, blood clots, sudden death
  - Addresses pathophysiology, screening, treatment
  - Includes link to patient perspective from PLWH

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**ASCVD Risk Assessment and Treatment**

Two approaches
- High risk
- Low-moderate risk

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High Risk Approach

- Known clinical ASCVD, or
- LDL c ≥ 190 mg/dL (unbx) and/or
- Age 40-75 with diabetes mellitus
- Calculated high ASCVD risk by risk calculator tools
- Presence of HIV-related or 2018 ACC/AHA “risk enhancers”

HIV-Related CVD Risk-Enhancing Factors?

Any of the following:
- History of prolonged HIV viremia and/or delay in ART initiation
  - Low current or nadir CD4 count (<350 cells/mm³)
  - HIV treatment failure or non-adherence
- Metabolic syndrome, lipodystrophy/lipoatrophy, fatty liver disease
  - Hepatitis C Virus Co-Infection

If YES: Consider adjusting risk upward; may be 1.5-2x higher

But also...

- Control risk factors other than lipids
  - Smoking, smoking, smoking!
  - Diabetes mellitus
  - Hypertension
  - Obesity - encourage exercise and diet: education!
- Statin (without hyperlipidemia)?
  - Wait for REPRIEVE trial...
Issues Associated with Polypharmacy

- Inappropriate drugs, doses: review at EVERY visit
- Drug interactions: DON’T GUESS — LOOK IT UP!
- Additive toxicities: nephrotoxicity, exacerbation of depression, etc.
- Risk of forgetting doses
- Risk of missing prescriptions/skipping refills due to cost
- Expense
- "Overwhelmed" feeling of just too many pills!

HIV Drug Interactions

www.hiv-druginteractions.org

Frailty Occurs More Frequently... and Perhaps Earlier in People with HIV
Frailty is Associated with Cardiovascular Risk by ACC/AHA 2013 Pooled Cohort Equation for Men & Women

- WHS and MACS Cohorts
- Framingham Risk Score and ACC/AHA Pooled Cohort Equation for CVD risk
- Outcome: Fried's frailty phenotype

Repeated measures logistic regression of cardiovascular risk scores with frailty

<table>
<thead>
<tr>
<th>ATP-2</th>
<th>ATP-1</th>
<th>ATP-2+</th>
<th>ATP-1+</th>
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<tbody>
<tr>
<td>OR</td>
<td>95% CI</td>
<td>OR</td>
<td>95% CI</td>
</tr>
<tr>
<td>Low risk (&lt;10%)</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>Medium risk (10-20%)</td>
<td>Ref</td>
<td>Ref</td>
<td>Ref</td>
</tr>
<tr>
<td>High risk (&gt;20%)</td>
<td>NS</td>
<td>NS</td>
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OR adjusted for education, income, cholesterol medication use, PAD, vasculature, and in HEV participants, CDR

Three Tools for Assessing Frailty

- Fried’s Frailty Phenotype
  - 5 physical variables
- Short Physical Performance Battery (SPPB)
  - 3 physical tasks
- Frailty Index
  - 40 physical, psychological, social/functional variables

Fried’s Frailty Phenotype

<table>
<thead>
<tr>
<th>Frailty indicator</th>
<th>Measure</th>
</tr>
</thead>
<tbody>
<tr>
<td>Weight loss</td>
<td>Self-reported weight loss of more than 10 pounds or recorded weight loss of ≥ 2% per annum</td>
</tr>
<tr>
<td>Self-reported exhaustion</td>
<td>Self-reported exhaustion on CES-D depression scale (1-4 days per week or most of the time)</td>
</tr>
<tr>
<td>Low energy expenditure</td>
<td>Energy expenditure &lt;138 KCal/week (male) or &lt;120 KCal/week (female)</td>
</tr>
<tr>
<td>Slow gait speed</td>
<td>Standardized cut-off times to walk 15 feet, stratified for sex and height</td>
</tr>
<tr>
<td>Weak grip strength</td>
<td>Grip strength, stratified by sex and BMI</td>
</tr>
</tbody>
</table>

Key: CES-D: Center for Epidemiological Studies-Depression; BMI: body mass index

Frailty is associated with survival!
Frailty: Short Physical Performance Battery (SPPB)

3 physical tasks:
- Repeated chair stands (sit then stand 5 times)
- Balance tests
- 4-meter (10-foot) walk test

Frailty Index

- Relates deficit accumulation to risk of death
- 40 variables
  - Physical: e.g. walk outside < 3d/wk; wt loss > 5 kg/yr
  - Comorbid diseases, without regard to severity
  - Psychological: feel depressed, happy, lonely, etc.
  - Social/Functional: help bathing, dressing, eating, etc.
- Scored between 0-1 = deficits/variables
  - < 0.08 = robust; ≥ 0.25 = frail

Frailty is Dynamic!
Interventions to Prevent Frailty

- Exercise, strength and balance training
- Social interaction
- Healthy diet
- Preventative health care and screening
- Management of medications
- Smoking cessation
Screening for Mental Health and Substance Use Issues

- Depression and substance use are common; screening is uncommon
- Easy screening tools available (and reimbursable!)
- Depression • PHQ-2 and 9
  - Anxiety • GAD-2 and 7
  - PHQ-2: Over the last 2 weeks, how often have you been bothered by the following; (score 0-3)
    - Little interest or pleasure in doing things
    - Feeling down, depressed or hopeless
- Alcohol Use: CAGE and AUDIT
- Drug Use: TICS, opioid risk tool

Screening Resources

National HIV Curriculum • https://www.hiv.uw.edu

What is Needed to End the Epidemic? Engagement in Care: "It's Complicated"

Half of all PWHA in US have suppressed virus; slightly more among those diagnosed
Worse among multiple subpopulations that vary regionally
Structural as well as individual barriers must be addressed = "social determinants"

**Stigma Kills!**

- HIV status
- HIV Criminalization Laws
- LGBTQ+ discrimination
- Ageism
- Substance use
- Mental health
- Race/ethnicity
- Socioeconomic status

*Advocacy by clinicians is needed!*

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**Posttest Question #3**

Which is **TRUE** about screening and/or treatment of hyperlipidemia in persons with HIV?

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**Question-and-Answer Session**
Back Up

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Booster: FDA Emergency Use Authorization<sup>1</sup> and CDC Recommendations<sup>2</sup>

- Applies only to Pfizer-BioNTech vaccine
- Booster to be given at least 6 months after 2<sup>nd</sup> dose of primary series
- **Should** receive a booster:
  - People ≥ 65 yo and residents in long-term care settings
  - People aged 50-64 with underlying medical conditions (including HIV)
- **May** receive a booster, based on individual benefits and risks
  - People aged 18-49 with underlying medical conditions (including HIV)
  - People aged 18-64 years who are at increased risk for COVID-19 exposure and transmission because of occupational or institutional setting

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