Guideline Update: Statins for Primary Prevention of Cardiovascular Disease for Persons with HIV

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Disclaimer

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Case

• 50-year-old patient, well-controlled HIV on BIC/TAF/FTC
• No diabetes, HTN, tobacco, or other meds
• Estimated 10-year ASCVD risk: 3.7%
• How would you counsel about pros/cons of starting a statin?
 Persons with HIV and Low-Intermediate (<20%) ASCVD* Risk Estimate

<table>
<thead>
<tr>
<th>Age 40-75 Years</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>ASCVD 10-Year Risk Score 5-20% (AI)</td>
<td>ASCVD 10-Year Risk Score &lt;5% (CI)</td>
</tr>
</tbody>
</table>

Moderate-Intensity Statin
- Pitavastatin: 4 mg once daily (AI)
- Atorvastatin: 20 mg once daily (AII)
- Rosuvastatin: 10 mg once daily (AII)

Age <40 Years
Insufficient data for recommendation

*Abbreviations: ASCVD = atherosclerotic cardiovascular disease
### Number Needed to Treat Over 5 Years (NNT$_5$) Based on REPRIEVE

<table>
<thead>
<tr>
<th>10-Year ASCVD* Risk Score</th>
<th>N</th>
<th>NNT$_5$</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;10%</td>
<td>563</td>
<td>35</td>
</tr>
<tr>
<td>5 to 10%</td>
<td>2,995</td>
<td>53</td>
</tr>
<tr>
<td>2.5 to &lt;5.0%</td>
<td>2,065</td>
<td>149</td>
</tr>
<tr>
<td>0 to &lt;2.5%</td>
<td>2,156</td>
<td>199</td>
</tr>
<tr>
<td>Overall</td>
<td>7,769</td>
<td>106</td>
</tr>
</tbody>
</table>

*Abbreviations: ASCVD = atherosclerotic cardiovascular disease*
### Persons Age 40-75 with Estimated ASCVD 10-Year Risk Score <5%

**Consider HIV-related factors that may increase ASCVD risk:**

- Prolonged duration of HIV infection, delayed antiretroviral therapy initiation
- Long periods of HIV viremia and/or treatment nonadherence
- Low current or nadir CD4 T lymphocyte cell count (e.g., <350 cells/mm$^3$)
- Exposure to older antiretroviral drugs associated with cardiometabolic toxicity
- Coinfection with hepatitis C

*Source: HHS Guidelines for Use of Antiretroviral Agents in Adults and Adolescents with HIV. February 27, 2024.*
## Recommendations for General Population (Including People with HIV): Indications for High-Intensity Statin

<table>
<thead>
<tr>
<th>Indication</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age 40 to 75 with: ≥20% 10-year ASCVD risk</td>
<td>• Initiate high-intensity statin</td>
</tr>
<tr>
<td>Age 20 to 75 with: LDL ≥190 mg/dL</td>
<td>• Initiate high-intensity statin at maximum dose tolerated</td>
</tr>
<tr>
<td>Age 40 to 75 with: diabetes mellitus</td>
<td>• Initiate at least moderate-intensity statin; perform further risk assessment to consider using high-intensity statin</td>
</tr>
</tbody>
</table>

Source: HHS Guidelines for Use of Antiretroviral Agents in Adults and Adolescents with HIV. February 27, 2024.
<table>
<thead>
<tr>
<th></th>
<th>High-Intensity</th>
<th>Moderate-Intensity</th>
<th>Low-Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Intensity</strong></td>
<td>Lowers LDL–C by ≥50%</td>
<td>Lowers LDL–C by 30-49%</td>
<td>Lowers LDL–C by &lt;30%</td>
</tr>
<tr>
<td><strong>High-Intensity</strong></td>
<td>Atorvastatin 40-80 mg QD</td>
<td>Pitavastatin 4 mg QD</td>
<td>Simvastatin 10 mg QD</td>
</tr>
<tr>
<td></td>
<td>Rosuvastatin 20-40 mg QD</td>
<td>Atorvastatin 20 mg QD</td>
<td>Pravastatin 10-20 mg QD</td>
</tr>
<tr>
<td><strong>Moderate-Intensity</strong></td>
<td>Rosuvastatin 10 mg QD</td>
<td>Simvastatin 20-40 mg QD</td>
<td>Lovastatin 20 mg QD</td>
</tr>
<tr>
<td></td>
<td>Simvastatin 20-40 mg QD</td>
<td>Pravastatin 40-80 mg QD</td>
<td>Fluvastatin 20-40 mg QD</td>
</tr>
<tr>
<td></td>
<td>Lovastatin 40-80 mg QD</td>
<td>Lovastatin 40-80 mg QD</td>
<td>Fluvastatin XL 80 mg QD</td>
</tr>
<tr>
<td></td>
<td>Fluvastatin XL 80 mg QD</td>
<td>Fluvastatin 40 mg BID</td>
<td>Fluvastatin 40 mg BID</td>
</tr>
<tr>
<td><strong>Low-Intensity</strong></td>
<td>Fluvastatin 40 mg BID</td>
<td>Fluvastatin 40 mg BID</td>
<td>Fluvastatin 40 mg BID</td>
</tr>
</tbody>
</table>

Source: HHS Guidelines for Use of Antiretroviral Agents in Adults and Adolescents with HIV. February 27, 2024.
### Statin-ARV Drug-Drug Interactions

<table>
<thead>
<tr>
<th>Recommended Statins</th>
<th>ARV Interaction Cautions &amp; Considerations</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pitavastatin</td>
<td>• No data with EVG/c, ATV/c, DRV/c, or FTR; use standard dose and monitor</td>
</tr>
</tbody>
</table>
| Atorvastatin        | • Do not exceed 20 mg daily with EVG/c, DRV/c, or DRV/r  
                      • Avoid with ATV/c  
                      • Monitor for adverse effects with ATV, ATV/r, FTR  
                      • EFV and ETR may decrease concentrations |
| Rosuvastatin        | • Monitor for adverse effects with EVG/c, DRV/r, FTR  
                      • Do not exceed 20 mg per day with DRV/c  
                      • Do not exceed 10 mg per day with ATV, ATV/r, ATV/c |

Abbreviations: EVG/c = elvitegravir/cobicistat, ATV/c = atazanavir/cobicistat, DRV/c = darunavir/cobicistat, darunavir/r = darunavir with ritonavir, ATV/r = atazanavir with ritonavir, FTR = fostemsavir, EFV = efavirenz, ETR = etravirine, FTR = fostemsavir
• Cardiovascular risk estimator tools:
  
  – ACC ASCVD Risk Estimator Plus:  
    https://tools.acc.org/ascvd-risk-estimator-plus/#!/calculate/estimate/
  
  – AHA PREVENT:*  
    https://professional.heart.org/en/guidelines-and-statements/prevent-calculator
  
  *What’s new? No race coefficient; age range starts at 30; options for including HbA1C, eGFR, albuminuria, zip code, BMI; estimate of heart failure risk

Case

• 50-year-old patient, well-controlled HIV on BIC/TAF/FTC

• No diabetes, HTN, tobacco, or other meds

• HIV hx: dx 10 years ago, CD4 nadir 250, started ART soon after

• ACC Risk Estimator Plus:
  - 10-year estimated ASCVD risk: 3.7%
  - Lifetime estimated ASCVD risk: 36%

• AHA PREVENT:
  - 10-year estimated ASCVD risk: 1.5%
  - 30-year estimated ASCVD risk: 10.0%
Summary

• Consider statins for primary CVD prevention! Conversation about statins and CVD risk should be routine

• Strong recommendation for at least moderate intensity statin for PWH age 40 to 75 with 10-year risk estimates 5 to 20%

• Age 40 to 75 and risk <5%: consider HIV history and non-HIV-related risk factors, plus lifetime risk and personal preference
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