What’s New in Aspirin Use and Lipid Management in Older Adults?

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Disclosure

The speakers have no conflicts of interest to disclose.

Learning Objectives

1. Provide current recommendations for use of aspirin and lipid-lowering agents to prevent cardiovascular events.
2. Compare risks and benefits of aspirin and new lipid-lowering agents in older adults.
3. Discuss findings from recent clinical trials of aspirin and new lipid-lowering agents for the prevention of cardiovascular events.
4. Given an older adult with multiple comorbid conditions, design a treatment regimen for the prevention of cardiovascular events.
Outline

• Aspirin for Primary CV Prevention in Older Adults

• Lipid Management in Older Adults

• Patient Cases

Overview of Cardiovascular Disease in Older Adults

• In adults aged 65 and older in the United States:
  • Heart disease is the leading cause of death
  • Cerebrovascular disease is one of the top 5 leading causes of death

• Increased risk for clotting and CVD with aging
  • Vascular aging ➔ reduced vasodilatory and antithrombotic properties
  • Increased levels of procoagulant factors
  • Increased risk of atherosclerosis and clot formation

• There are physiologic changes that occur with aging that can increase lipid production

• Antihyperlipidemic medications are among the most commonly prescribed medications in patients age 65 and older

Eur Heart J 2015;36:3238-49.
Previous ASÁ Recommendations

<table>
<thead>
<tr>
<th>Guideline</th>
<th>Patient Population</th>
<th>Recommendation for Primary Prevention</th>
<th>Strength of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>USPSTF 2016</td>
<td>Adults 60-69 years of age with ≥ 10% 10-year CVD risk</td>
<td><strong>Individualize decision</strong> to start low dose ASA based on benefit vs harm</td>
<td>Grade C</td>
</tr>
<tr>
<td></td>
<td>Adults ≥ 70 years of age</td>
<td><strong>Insufficient evidence</strong> to assess benefit vs harm of initiating ASA</td>
<td>Grade I</td>
</tr>
<tr>
<td>CHEST (9th ed) 2012</td>
<td>Adults &gt; 50 years of age</td>
<td>Low dose ASA recommended; therapy should be individualized and CV risk should be taken into account</td>
<td>Grade 2B</td>
</tr>
<tr>
<td>ADA 2018</td>
<td>Adults ≥ 50 years of age with DM and at an increased risk for CV disease and not at increased risk for bleeding</td>
<td>Aspirin therapy (75–162 mg/day) may be considered in patient with DM with high CV risk, after a discussion with the patient on the benefits versus risks</td>
<td>Level of Evidence C</td>
</tr>
</tbody>
</table>

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Previous Clinical Trials

- Prior to 2018
  - Only 6 trials which evaluated ASA use for primary prevention of CVD provided a subgroup analysis of efficacy outcomes in patients ≥ 65 years old
  - Doses studied
    - 100mg daily (3 trials)
    - 81mg daily or 100mg daily (1 trial)
    - 325mg every other day (1 trial)
    - 100mg every other day (1 trial)
  - Mixed results in subgroup analysis
    - Reduction in MI, CV, and atherosclerotic events versus no benefit
    - Most of the studies → bleeding risk was higher in ASA group

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Chest 2012;141(suppl 2):e6375–685.

Sr Care Pharm 2019;34:581-95.
### Recent Evidence (ARRIVE, ASCEND, ASPREE)

<table>
<thead>
<tr>
<th></th>
<th>Aspirin to Reduce Risk of Initial Vascular Events (ARRIVE)</th>
<th>A Study of Cardiovascular Events in Diabetes (ASCEND)</th>
<th>Aspirin in Reducing Events in the Elderly (ASPREE)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population size (mean age)</td>
<td>12,546 (64)</td>
<td>15,480 (63)</td>
<td>15,480 (74)</td>
</tr>
<tr>
<td>Patient Population</td>
<td>Males ≥ 55 yo, females ≥ 60 years old with average CV risk</td>
<td>Patients with DM and no evidence of CV risk</td>
<td>Healthy adults ≥ 70 years old (≥ 65 years old if black or Hispanic in the US)</td>
</tr>
<tr>
<td>Length of Study</td>
<td>5 years</td>
<td>7.4 years</td>
<td>4.7 years</td>
</tr>
<tr>
<td>Study Design</td>
<td>Randomized, placebo-controlled</td>
<td>Randomized, placebo-controlled</td>
<td>Randomized, placebo-controlled</td>
</tr>
<tr>
<td>ASA Dose</td>
<td>100mg daily</td>
<td>100mg daily</td>
<td>100mg daily</td>
</tr>
</tbody>
</table>


### Primary Efficacy Endpoints

<table>
<thead>
<tr>
<th></th>
<th>ARRIVE* Composite outcome of time to first occurrence of CV death, MI death, MI, UA, stroke, or TIA</th>
<th>ASCEND First serious vascular event</th>
<th>ASPREE Composite of death, dementia, or persistent disability</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Age &lt;65</td>
<td>Age ≥65</td>
</tr>
<tr>
<td>Aspirin</td>
<td>4.29%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Placebo</td>
<td>4.48%</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>HR/RR (95% CI)</td>
<td>HR 0.96 (0.81-1.13)</td>
<td>HR 0.86 (0.67-1.11)</td>
<td>HR 1.04 (0.84-1.30)</td>
</tr>
<tr>
<td>p-value</td>
<td>0.6038</td>
<td>--</td>
<td>--</td>
</tr>
</tbody>
</table>

*Results are for intention-to-treat population

Safety Endpoints

<table>
<thead>
<tr>
<th></th>
<th>ARRIVE* GI bleeding (safety endpoint)</th>
<th>ASCEND First major bleeding (primary safety endpoint)</th>
<th>ASPREE Major hemorrhage (secondary endpoint)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Overall</td>
<td>Overall</td>
<td>Age 60-69</td>
</tr>
<tr>
<td>Aspirin</td>
<td>0.97%</td>
<td>4.1%</td>
<td>3.6%</td>
</tr>
<tr>
<td>Placebo</td>
<td>0.46%</td>
<td>3.2%</td>
<td>2.6%</td>
</tr>
<tr>
<td>HR/RR (95% CI)</td>
<td>HR 2.11 (1.36-3.28)</td>
<td>RR 1.29 (1.09-1.52)</td>
<td>RR 1.37 (1.04-1.80)</td>
</tr>
<tr>
<td>p-value</td>
<td>0.007</td>
<td>0.003</td>
<td></td>
</tr>
</tbody>
</table>

*Results are for intention-to-treat population


ASPREE Trial - Aspirin Linked to Cancer???

- Higher all-cause mortality in aspirin group
  - Excess of 1.6 deaths per 1000 person-years
- Risk of death from any cause
  - Aspirin group: 12.7 per 1000 person-years
  - Control group: 11.1 per 1000 person-years
  - HR 1.14 (95% CI 1.01-1.29)
- Cancer → most predominant underlying cause of death
  - 49.6% of deaths
- Risk of cancer-related death
  - Aspirin group: 6.7 events per 1000 person-years
  - Control group: 5.1 events per 1000 person-years
  - HR 1.31 (95% CI 1.10-1.56)
- Higher cancer-related mortality in the aspirin group was not confined to a specific type of cancer

### Past and Present Meta-Analysis

<table>
<thead>
<tr>
<th>Meta-Analysis (Year)</th>
<th># of studies</th>
<th>Benefit and Harm</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATT (2009)</td>
<td>6</td>
<td>Any serious vascular event: RaR 0.88 (0.82-0.94) Major extracranial bleed: RaR 1.54 (1.30-1.82)</td>
</tr>
<tr>
<td>Raju et al (2011)</td>
<td>9</td>
<td>Major CV events: RR 0.88 (0.83-0.94) GI bleeding: RR 1.37 (1.15-1.62)</td>
</tr>
<tr>
<td>Raju et al (2015)</td>
<td>10</td>
<td>Major CV events: RR 0.89 (0.82-0.97) GI bleeding: RR 1.64 (1.30-2.07)</td>
</tr>
<tr>
<td>Guirgis-Blake et al (2016)</td>
<td>11</td>
<td>Non-fatal MI: RR 0.78 (0.71-0.87)</td>
</tr>
<tr>
<td>Whitlock EP et al (2016)</td>
<td>10</td>
<td>Major GI bleeding: OR 1.58 (1.29-1.95) Hemorrhagic stroke: OR 1.27 (0.96-1.68)</td>
</tr>
<tr>
<td>Zheng (2019)</td>
<td>13</td>
<td>Composite of CV events: HR 0.89 (0.84-0.95) Major bleeding events: HR 1.43 (1.30-1.56) <strong>included ASCEND, ARRIVE, ASPREE trials</strong></td>
</tr>
</tbody>
</table>

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**Meta-Analysis (Zheng et al 2019)**

<table>
<thead>
<tr>
<th># of studies</th>
<th>13 (including ASPREE, ARRIVE, ASCEND)</th>
</tr>
</thead>
<tbody>
<tr>
<td># of participants</td>
<td>164,225</td>
</tr>
<tr>
<td>Median age (range)</td>
<td>62 (53-74)</td>
</tr>
<tr>
<td>Median follow-up</td>
<td>5 years</td>
</tr>
</tbody>
</table>

#### Findings

**ASA group: Reduced risk for CV events**
- ASA: 57.1 per 10,000 participant-years
- No ASA: 61.4 per 10,000 participant-years
  - HR 0.89, 95% CI 0.84-0.95
  - absolute risk reduction 0.38% (95% CI 0.20-0.55)
  - **Prevention of CV event: NNT = 265**

**ASA group: Higher risk for major bleeding**
- ASA: 23.1 per 10,000 participant-years
- No ASA: 16.4 per 10,000 participant-years
  - HR 1.43, 95% CI 1.30-1.56
  - absolute risk increase 0.47% (95% CI 0.34-0.62)
  - **To cause one bleeding event: NNT = 210**

**Patients with high/low CV risk or DM**
- ASA use associated with reductions in CV events and an increased risk for bleeding

**Association of ASA with cancer outcomes**
- NEUTRAL

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Current ASA Recommendations

<table>
<thead>
<tr>
<th>Agency</th>
<th>Patient Population</th>
<th>Recommendation for Primary Prevention</th>
<th>Strength of Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA 2019</td>
<td>Adults ≥ 50 years of age</td>
<td>Low dose ASA is reasonable in patient with DM and at least 1 additional major risk factor (FH of premature ASCVD, HTN, dyslipidemia, smoking, or CKD/albimunuria) who are not at increased risk of bleeding (e.g., older age, anemia, renal disease)</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>Adults &gt; 70 years of age with or without DM</td>
<td>ASA use should be carefully considered and may generally not be recommended; may consider ASA if high CV risk and low bleeding risk, but generally not in older adults</td>
<td></td>
</tr>
<tr>
<td>ACC/AHA 2019</td>
<td>Primary prevention of ASCVD in higher ASCVD adults 40-70 years old who are not at increased risk of bleeding</td>
<td>75-100 mg of ASA might be considered</td>
<td>Level of Evidence A</td>
</tr>
<tr>
<td></td>
<td>Primary prevention of ASCVD among adults &gt; 70 years old</td>
<td>75-100 mg of ASA should not be administered</td>
<td>Level of Evidence B</td>
</tr>
<tr>
<td></td>
<td>Primary prevention among adults of any age who have a high risk of bleeding</td>
<td></td>
<td>Level of Evidence C</td>
</tr>
</tbody>
</table>

Beer’s Criteria 2019

- Adults ≥ 70 yo
  - Use aspirin with caution for primary prevention of cardiac events
  - (Previous 2015 Beer’s Criteria recommendation was for ≥ 80 years)

Beer’s Criteria Rationale

- Risk of major bleeding increases with age
- Lack of net benefit in older adults with CV risk factors
- Evidence is not conclusive

- No recommendations for adults < 70 yo
What should you do?

- Individualize therapy
  - CV risk: Age, gender, total/HDL cholesterol, BP, DM, smoking
  - GI risk: Ulcer, dyspepsia, NSAID use, antiplatelet, anticoagulant use
- Consider
  - Life expectancy
  - ASCVD risk
  - Modifiable risk factors for CVD (ie. BP, smoking, weight)
  - ADRs
  - Patient preference

*Aliment Pharmacol Ther 2013 Apr;37(7):738-48.*

Self-Assessment Question #1

The most recent meta-analysis (Zheng 2019) of aspirin use for primary prevention of CVD has shown that aspirin use is associated with

A. Increased risk of CV events and bleeding  
B. Decreased risk of CV events and bleeding  
C. Increased risk for cancer  
D. Neutral risk for cancer
Poll: The most recent meta-analysis (Zheng 2019) of aspirin use for primary prevention of CVD has shown that aspirin use is associated with

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Lipid Management
### ACC/AHA 2018 Guidelines

#### Prevention Type | Recommendation
---|---
**Primary** | Provider-Patient Discussion, further actions based upon 10-year risk score:
- ≥ 20% risk discussion, initiate statin with goal LDL reduction of 50% or more
- 7.5 - < 20% if risk discussion and risk enhancers favor statin, initiate moderate intensity statin
- 5.5% if risk enhancers are present, have risk discussion and consider moderate intensity statin
- < 5% risk discussion, encourage lifestyle changes

#### Secondary | ASCVD not at very high risk
- Age ≤ 75 years: initiate high intensity statin
- If LDL remains ≥ 70 mg/dL, consider adding ezetimibe to maximally tolerated statin
- Use moderate intensity statin if high intensity is not tolerated

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommendation</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults 75 years or older &lt;br&gt;• LDL 70 – 189 mg/dL</td>
<td>Initiating a moderate intensity statin may be reasonable</td>
<td>IIB</td>
</tr>
<tr>
<td>Adults 75 years or older with: &lt;br&gt;• Functional decline (physical or cognitive), multimorbidity, frailty, or reduced life-expectancy</td>
<td>It may be reasonable to stop statin therapy</td>
<td>IIB</td>
</tr>
</tbody>
</table>
USPSTF Recommendations

<table>
<thead>
<tr>
<th>Population</th>
<th>Recommendation</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>Adults aged 40 to 75 years with:</td>
<td>Use a low- to moderate-dose statin for the prevention of CVD events and mortality</td>
<td>B</td>
</tr>
<tr>
<td>• No history of CVD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 or more CVD risk factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• A calculated 10-year CVD event risk of 10% or greater</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults aged 40 to 75 years with:</td>
<td>May choose to offer a low- to moderate-dose statin to certain adults without a history of CVD</td>
<td>C</td>
</tr>
<tr>
<td>• No history of CVD</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• 1 or more CVD risk factors</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• A calculated 10-year CVD event risk of 7.5% to 10%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Adults 76 years and older with no history of CVD</td>
<td>Current evidence is insufficient to assess the balance of benefits and harms of initiating statin use for the primary prevention of CVD events and mortality</td>
<td>I</td>
</tr>
</tbody>
</table>

Data for Statin Use in the Elderly

- Primary prevention
  - PROSPER
  - HPS
  - LIPID
  - SAGE
  - MIRACL
  - PROVE-IT
  - TNT
  - IDEAL
  - SPARCL

- Secondary prevention
  - AFCAPS/ texCAPS
  - JUPITER
  - ASCOT-LLA
  - HOPE-3
  - ALHAT-LLT
• Patient and Provider Assessment of Lipid Management (PALM) registry
• Looked at prescribing habits of statins after newer guideline recommendations

Cholesterol Treatment Trialists’ Collaboration

• Compared the effects of statin therapy at different ages and explored the effects of statin therapy among older individuals
• Divided participants into six age groups:
  • 55 years or younger
  • 56–60 years
  • 61–65 years
  • 66–70 years
  • 71–75 years
  • Older than 75 years
• Statins cause significant reductions in major vascular events irrespective of age
  • Less direct evidence of benefit among patients older than 75 years who do not already have evidence of occlusive vascular disease
Statin Use in the Elderly

- In patients <75 years old, data overall supports use
- Concern for side effects
  - Myalgias
  - Cognition impairment
    - Can potentially be protective or causative
    - Lipophilic statins cross more readily into the central nervous system
  - Increase in blood glucose
    - Low risk

PCSK9 Inhibitors

- Monoclonal antibody that binds to proprotein convertase subtilisin kexin type 9 (PCSK9) rendering it inactive
- PCSK9 binds to LDL receptors to promote their degradation
- LDL receptors clear LDL from the blood
- Can reduce LDL by up to 70%
- Two PCSK9 inhibitors currently on the market
  - Evolocumab
  - Alirocumab
Cardiovascular Benefit of PCSK9 Inhibitors

• FOURIER Trial- Evolucumab
  • Mean age = 63 years (inclusion criteria of age 40-85 years old)
  • Used in conjunction with statin (~ 70% high intensity, 30% medium intensity)
  • Significant reduction in primary composite end point (CV death, MI, CVA, hospitalization for UA, or coronary revascularization)
    • Evolucumab = 9.8% (n=1344), placebo = 11.3% (n=1563) (HR, 0.85; 95% CI, 0.79 to 0.92; P<0.001)
  • No difference in safety outcomes besides injection site reactions
  • Duration of follow-up is only 2 years and long-term safety data are lacking

Cardiovascular Benefit of PCSK9 Inhibitors

• ODYSSEY Trial -Alirocumab
  • Mean age = 58 years
  • In patients with previous MI or UA in last 12 months
  • Taken with a high intensity statin if possible
  • Significant reduction in primary composite end (coronary heart disease, nonfatal MI, fatal or nonfatal ischemic stroke, or UA requiring hospitalization)
    • Alirocumab = 9.5% (n= 903), placebo = 11.1 % (n= 1052) (HR, 0.85; 95% CI, 0.78 to 0.93; P<0.001)
  • No difference in safety outcomes besides injection site reactions
Efficacy and Safety of PCSK9 Inhibitors

- Specific studies in elderly have not been published yet
  - Poster presentation in 2015
    - Pooled results from 4 phase 3 studies for efficacy, 2 phase 2 and 3 studies for safety comparing evolocumab to placebo and ezetimibe
    - Evolocumab significantly reduced LDL-C relative to placebo or ezetimibe, in patients ≥65 years old
    - Similar efficacy was observed when analyzing only those patients ≥75 y old
    - Most AEs were mild and no notable imbalances were observed between control and evolocumab in either age group
      - No differences in myalgia or neurocognitive events

Self-Assessment Question #2

The meta-analysis of the Cholesterol Treatment Trialists’ Collaboration showed that in patients >75 years old without evidence of occlusive vascular disease, there is:

A. No benefit of stain use  
B. Significant benefit of moderate intensity statin use  
C. Significant increase in myalgias  
D. Less direct benefit of statin use
Poll: The meta-analysis of the Cholesterol Treatment Trialists’ Collaboration showed that in patients >75 years old without evidence of occlusive vascular disease, there is:

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Meet Edyth (64 years old)

- Edyth has arrived for her first appointment with an ambulatory care pharmacist after she was recently diagnosed with DM2
- Social History
  - Owns and works in a floral shop in Portland, OR
  - Lives with elderly mother, spouse, and 3 cats
  - One adult child lives nearby, other two live in CA and IN
  - (-) tobacco, 1-2 glasses wine 3x/week, occasionally smokes marijuana
- Family History
  - Mother (90 y/o) has Grave’s disease and rheumatoid arthritis
  - Father died at age 72 from heart failure, hx DM2, MI x2, and CKD
  - Sister (64 y/o) has osteoporosis and HTN
Meet Edyth (64 years old)

- **Past Medical History**
  - DM2 x 1 month
  - Prediabetes x 4 years
  - HTN x 6 years
  - Osteopenia x 2 years (DXA -1.5)
- **Medications**
  - Metformin 500 mg 1 tab PO BID
  - Lisinopril 20 mg 1 tab PO qAM
  - Vitamin D 2000 IU 1 cap PO qAM

- **Labs**
  - A1C 6.9% (1 month ago)
  - BMP WNL
  - CBC WNL
  - TChol 210, HDL 45, LDL 116, TG 243
- **Vitals (prior to starting lisinopril)**
  - BP 128-136/76-82
  - P 68-74

---

**Statin dose intensity and % LDL-C reduction**

- **Moderate-intensity**
  - (LDL-C reduction 30-49%)
    - Atorvastatin 10-20 mg
    - Rosuvastatin 5-10 mg
    - Simvastatin 20-40 mg
    - Lovastatin 40 mg
    - Pravastatin 40-80 mg
    - Pitavastatin 1-4 mg

- **High-intensity**
  - (LDL-C reduction ≥50%)
    - Atorvastatin 40-80 mg
    - Rosuvastatin 20-40 mg

### HAS-BLED: Estimating Bleeding Risk

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hypertension</td>
<td>1</td>
</tr>
<tr>
<td>Abnormal Liver or Renal Fx</td>
<td>1 or 2</td>
</tr>
<tr>
<td>Stroke</td>
<td>1</td>
</tr>
<tr>
<td>Bleeding</td>
<td>1</td>
</tr>
<tr>
<td>Labile INRs</td>
<td>1</td>
</tr>
<tr>
<td>Elderly</td>
<td>1</td>
</tr>
<tr>
<td>Drugs or Alcohol</td>
<td>1 or 2</td>
</tr>
</tbody>
</table>

Designed for pts with atrial fibrillation (Afib)
Validated for Afib pts receiving:
- No anticoagulation
- ASA monotherapy
- Full anticoagulation

<table>
<thead>
<tr>
<th>Score</th>
<th>Bleeds per 100 pt years*</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>1.13</td>
</tr>
<tr>
<td>1</td>
<td>1.02</td>
</tr>
<tr>
<td>2</td>
<td>1.88</td>
</tr>
<tr>
<td>3</td>
<td>3.74</td>
</tr>
<tr>
<td>4</td>
<td>8.70</td>
</tr>
<tr>
<td>5+</td>
<td>Insufficient data</td>
</tr>
</tbody>
</table>

HAS-BLED 3+ = high bleed risk

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- **Medications**
  - Metformin 500 mg 1 tab PO BID
  - Lisinopril 5 mg 1 tab PO qAM
  - Vitamin D 2000 IU PO qAM

- **Labs**
  - A1C 6.9% (1 month ago)
  - BMP WNL
  - CBC WNL
  - TChol 210, HDL 45, LDL 116, TG 243

- **Vitals**
  - BP 114-128/72-82
  - P 68-74

---

10-Year ASCVD Risk = 15.8%, HAS-BLED = 0 (1 w/ ASA)

Based on the most recent aspirin and lipid-management guidelines, which pharmacotherapy plan is most appropriate for Edyth (64 y/o)?

a) Add aspirin 81 mg 1 tab PO qAM and pravastatin 40 mg 1 tab PO qPM

b) Add aspirin 81 mg 1 tab PO qAM and rosuvastatin 10mg 1 tab PO qAM

c) Add aspirin 81 mg 1 tab PO qAM only; statin therapy not warranted

d) Add rosuvastatin 10mg 1 tab PO qAM; aspirin therapy not warranted
### Relevant Recommendations

<table>
<thead>
<tr>
<th>Agency</th>
<th>Age</th>
<th>Recommendation for Primary Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA 2019</td>
<td>≥ 50</td>
<td>Low dose ASA is reasonable in patient with DM and at least one additional major risk factor (HTN) who are NOT at increased risk of bleeding</td>
</tr>
<tr>
<td>ACC/AHA 2018 Blood Cholesterol</td>
<td>40-75</td>
<td>Provider-Patient Discussion, further actions based upon 10-year risk score: 7.5 - &lt;20% If risk discussion and risk enhancers favor statin, initiate moderate intensity statin</td>
</tr>
<tr>
<td>ACC/AHA 2018 Blood Cholesterol</td>
<td>40-75 w/ DM</td>
<td>If LDL-C ≥70 mg/dL, start moderate-intensity statin therapy without calculating 10-year ASCVD risk</td>
</tr>
</tbody>
</table>

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- **Medications**
  - Metformin 500 mg 1 tab PO BID
  - Lisinopril 5 mg 1 tab PO qAM
  - Vitamin D 2000 IU PO qAM

- **Labs**
  - A1C 6.9% (1 month ago)
  - BMP WNL
  - CBC WNL
  - TChol 210, HDL 45, LDL 116, TG 243

- **Vitals**
  - BP 114-128/72-82
  - P 68-74

---

**10-Year ASCVD Risk = 15.8%, HAS-BLED = 0 (1 w/ ASA)**

Which pharmacotherapy plan is most appropriate for Edyth (64 y/o), based on the most recent aspirin and lipid-management guidelines?

- a) Add aspirin 81 mg 1 tab PO qAM and pravastatin 40 mg 1 tab PO qPM
- b) Add aspirin 81 mg 1 tab PO qAM and rosuvastatin 10mg 1 tab PO qAM
- c) Add aspirin 81 mg 1 tab PO qAM only; statin therapy not warranted
- d) Add rosuvastatin 10mg 1 tab PO qAM; aspirin therapy not warranted

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Edyth is 71 years old

- Edyth has returned to the ambulatory care clinic
- Social History
  - Mother has in-home caregivers due to recent falls
  - Spouse has retired
  - Edyth is beginning to work shorter hours in the floral shop
- Past Medical History
  - Recently diagnosed with Parkinson’s Disease

*Medications*
- Metformin 500 mg 2 tabs PO BID
- Lisinopril 20 mg 1 tab PO qAM
- Vitamin D 2000 IU 1 cap PO qAM
- Rosuvastatin 10 mg 1 tab PO qAM
- Aspirin 81 mg 1 tab PO qAM
- Rasagiline 1mg 1 tab PO qAM

*Labs (today)*
- A1C 7.2%
- BMP WNL
- CBC WNL
- TChol 151, HDL 50, LDL 62, TG 194

*Vitals (today)*
- BP 110/68
- P 72
• Medications
  • Metformin 500 mg 2 tabs PO BID
  • Lisinopril 20 mg 1 tab PO qAM
  • Vitamin D 2000 IU 1 cap PO qAM
  • Rosuvastatin 20 mg 1 tab PO qAM
  • Aspirin 81 mg 1 tab PO qAM
  • Rasagiline 1 mg 1 tab PO qAM

• Labs (today)
  • A1C 7.2%
  • BMP WNL
  • CBC WNL
  • Tchol 151, HDL 50, LDL 62, TG 194

• Vitals (today)
  • BP 110/68
  • P 72

HAS-BLED = 2 (w/ ASA)

Which pharmacotherapy plan and rationale is most appropriate for Edyth, based on the most recent aspirin studies?

a) Discontinue aspirin; higher bleed risk for pts >70 y/o compared to pts ≤70 y/o
b) Continue aspirin; optimal benefit: risk ratio for pts regardless of age with DM2
c) Continue aspirin; Beer’s Criteria only recommends avoiding ASA if >80 y/o
d) Increase aspirin to 325 mg 1 tab PO qAM; optimize benefit for pts >70 y/o with DM2

### Relevant Recommendations

<table>
<thead>
<tr>
<th>Agency</th>
<th>Age</th>
<th>Recommendation for Primary Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADA 2019</td>
<td>&gt;70</td>
<td>ASA use should be carefully considered and may generally not be recommended; may consider ASA if high CV risk and low bleeding risk, but generally not in older adults</td>
</tr>
<tr>
<td>2019 Beer’s Criteria</td>
<td>≥70</td>
<td>Use with caution for primary prevention; lack of net benefit when considering bleed risk</td>
</tr>
</tbody>
</table>

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*Aged to Perfection*  
#ASCP50
**Medications**
- Metformin 500 mg 2 tabs PO BID
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**Labs (today)**
- A1C 7.2%
- BMP WNL
- CBC WNL
- TChol 151, HDL 50, LDL 62, TG 194

**Vitals (today)**
- BP 110/68
- P 72

**HAS-BLED = 2 (w/ ASA)**

Based on the most recently published aspirin studies, which pharmacotherapy plan and rationale is most appropriate for Edyth?

a) Discontinue aspirin; higher bleed risk for pts >70 y/o compared to pts ≤70 y/o

b) Continue aspirin; optimal benefit:risks ratio for pts regardless of age with DM2

c) Continue aspirin; Beer’s Criteria only recommends avoiding ASA if >80 y/o

d) Increase aspirin to 325 mg 1 tab PO qAM; optimize benefit for pts >70 y/o with DM2

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**Edyth is 77 years old**

- Edyth has returned to the ambulatory care clinic
- Social History
  - Mother passed away 2 years ago
  - Edyth has sold the floral shop and moved into her sister’s home
  - Has in-home care-givers x12 hours every day
- Past Medical History
  - Parkinson’s disease has progressed
    - Requires significant assistance to perform Activities of Daily Living
  - Osteopenia has progressed to osteoporosis (DXA -2.6%)
Edyth is 77 years old

- **Medications**
  - Metformin 500 mg 2 tabs PO BID
  - Glipizide XL 10 mg 1 tab PO qDay
  - Lisinopril 20 mg 1 tab PO qAM
  - Vitamin D 2000 IU 1 cap PO qAM
  - Calcium citrate 600 mg 1 tab PO BID
  - Rosuvastatin 20 mg 1 tab PO qAM
  - Rasagiline 1 mg 1 tab PO qAM
  - Carbidopa/levodopa 25 mg /100 mg 1 tab PO TID
  - Zolendronic acid 5 mg IV annually

- **Labs (today)**
  - A1C 7.4%
  - BMP WNL
  - CBC WNL
  - TChol 148, HDL 45, LDL 65, TG 190

- **Vitals (today)**
  - BP 112/64
  - P 72

Which pharmacotherapy plan and rationale is most appropriate for Edyth, based on the most recent lipid management guideline recommendations?

a) Increase rosuvastatin to 40mg 1 tab PO qAM; optimize benefits

b) Switch to pravastatin 40 mg 1 tab PO qPM; optimize benefit: risk ratio

c) Discontinue rosuvastatin; less benefit for pts ≥75 y/o compared to pts <75 y/o

d) Discontinue rosuvastatin; pt is ≥75 y/o and experiencing functional decline
Relevant Recommendations

<table>
<thead>
<tr>
<th>Agency</th>
<th>Age</th>
<th>Recommendation for Primary Prevention</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018 ACC/AHA</td>
<td>≥75</td>
<td>It may be reasonable to stop statin therapy if patient has functional decline (physical or cognitive), multimorbidity, frailty, or reduced life-expectancy</td>
</tr>
</tbody>
</table>

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Medications
- Metformin 500 mg 2 tabs PO BID
- Glipizide XL 10 mg 1 tab PO qDay
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- Labs (today)
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  - BMP WNL
  - CBC WNL
  - TChol 148, HDL 45, LDL 65, TG 190
- Vitals (today)
  - BP 112/64
  - P 72

Based on the most recent lipid management guidelines, which pharmacotherapy plan and rationale is most appropriate for Edyth?

a) Increase rosuvastatin to 40 mg 1 tab PO qAM; optimize benefits
b) Switch to pravastatin 40 mg 1 tab PO qPM; optimize benefit:risk ratio
c) Discontinue rosuvastatin; less benefit for pts ≥75 y/o compared to pts <75 y/o
d) Discontinue rosuvastatin; pt is ≥75 y/o and experiencing functional decline
References


References


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Live Content Slide
When playing as a slideshow, this slide will display live content

Social Q&A
To access Q&A, go to this link: ascp.com/qa and select the “What’s New in Aspirin Use and Lipid Management in Older Adults?” activity, as seen below.