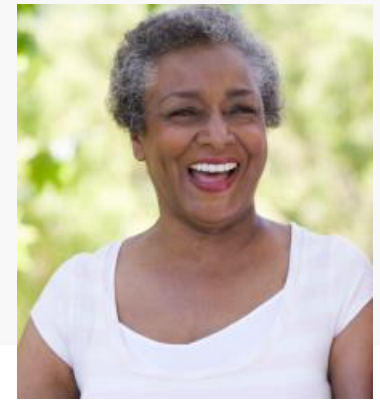


**Aspirin for
Primary Prevention of CVD?
CASE STUDY**

April 11, 2019
Kathy Berra MSN, ANP-BC, FAAN, FPCNA

Case Study - Mrs. Smith



- 49 YO, African American
- CC: Diabetes check-up
- PMH: DM2, HTN, Hyperlipidemia,
- Lifestyle Hx: Non-smoker, walks 4,500 steps/day, bank manager, 3 teens at home
- FH: Mother: Diabetes, HTN, CVA, Father: HTN, MI
- Daily Medications: Metformin 500 mg, Glyburide 5 mg, Atorvastatin 20 mg, Diovan HCT 80/12.5 mg

Physical Examination

Height: 65 in.
Wt: 175 lbs
BMI: 29 kg/m²
BP: 148/88
HR: 80 bpm

Laboratory Results

TC: 194 mg/dL	Cr: 0.7 mg/dl
TG: 140 mg/dL	ALT: 20 U/L
HDL: 54 mg/dL	TSH - WNL
LDL: 112 mg/dL	GFR: 83 mL/min
Non-HDL: 140 mg/dL	

Aspirin Case Study for Primary Prevention of CVD

A Case Study

1. Summarize evidence-based recommendations for prescribing aspirin for the primary prevention of CVD
2. Discuss assessment of CV Risk for ASA use
4. Discuss bleeding risk and ASA
5. What would you recommend for Mrs. Smith?

Use Recommendations for Aspirin

Referenced studies that support recommendations are summarized in Online Data Supplements 17 and 18. AHA/ACC Primary Prevention of CVD. 3/2019

COR - Class (Strength) of Recommendation	LOE- Level of (Quality) Evidence	Recommendations
<p>IIB (WEAK) May/Might be reasonable May/Might be considered Usefulness/effectiveness is unknown</p>	<p>A High-quality evidence from more than 1 RCT Meta-Analysis of High-quality RCTs One or more RCTs corroborated by high-quality registry studies</p>	<p>1. Low-dose aspirin (75-100 mg orally daily) might be considered for the primary prevention of ASCVD among select adults 40 to 70 years of age who are at higher ASCVD risk but not at increased bleeding risk (S4.6-1–S4.6-8).</p>
<p>III: Harm (STRONG) Suggested Phrases: Potentially harmful Causes Harm Associated with excess morbidity/mortality Should not be performed/administered/other</p>	<p>B-R Moderate-quality evidence* from one or more well-designed, well executed nonrandomized studies, observational studies, or registry studies Meta-analysis of such studies</p>	<p>2. Low-dose aspirin (75-100 mg orally daily) should not be administered on a routine basis for the primary prevention of ASCVD among adults >70 years of age (S4.6-9).</p>
<p>III: Harm (STRONG) Suggested Phrases: Potentially harmful Causes Harm Associated with excess morbidity/mortality Should not be performed/administered/other</p>	<p>C-LD Randomized or nonrandomized observational or registry studies with limitations of design or execution Meta-analysis of such studies Physiological or mechanistic studies in human studies</p>	<p>3. Low-dose aspirin (75-100 mg orally daily) should not be administered for the primary prevention of ASCVD among adults of any age who are at increased risk of bleeding (S4.6-10).</p>

Cardiovascular Risk Assessment

Pooled Cohort Equation

http://tools.acc.org/Idl/ascvd_risk_estimator/index.html#!/calculate/estimator/



AMERICAN
COLLEGE of
CARDIOLOGY



American
Heart
Association

ASCVD
Risk Estimator

Estimator

Recommendation

10-Year ASCVD Risk

~% calculated risk

~% risk with optimal risk factors ⓘ

Lifetime ASCVD Risk

~% calculated risk

~% risk with optimal risk factors ⓘ



PCNA
PREVENTIVE CARDIOVASCULAR
NURSES ASSOCIATION

Cardiovascular Risk Assessment

Heart Risk Calculators

Framingham risk score and prediction of lifetime risk for coronary heart disease Lloyd-Jones DM¹, Wilson PW, Larson MG, Beiser A, Leip EP, D'Agostino RB, Levy D

<https://www.mayoclinic.org/diseases-conditions/heart-disease/in-depth/heart-disease-risk/itt-20084942>

score is calculated and education provided

<https://my.clevelandclinic.org/ccf/media/Files/heart/Framingham-Risk-Tool-Men-Women.pdf?la=en>

Score is calculated and education is provided

Case Study - Mrs. Smith: Risk Assessment



ASCVD
Risk Estimator

Estimator	Recommendation ↻
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<p>10-Year ASCVD Risk 13.3% <small>calculated risk</small> 0.9% <small>risk with optimal risk factors ⓘ</small></p>	<p>Lifetime ASCVD Risk 50% <small>calculated risk</small> 8% <small>risk with optimal risk factors ⓘ</small></p>
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2.2. Assessment of Cardiovascular Risk

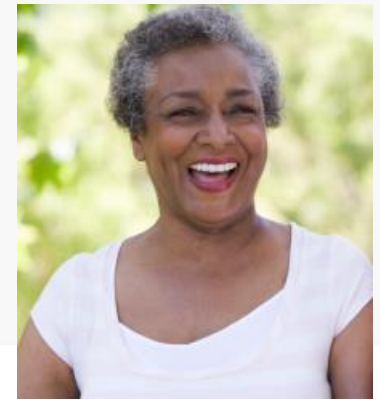
Recommendations for Assessment of Cardiovascular Risk

Referenced studies that support recommendations are summarized in [Online Data Supplement 3](#).

COR	LOE	Recommendations
I	B-NR	1. For adults 40 to 75 years of age, clinicians should routinely assess traditional cardiovascular risk factors and calculate 10-year risk of ASCVD by using the pooled cohort equations (PCE) (S2.2-1, S2.2-2).
IIa	B-NR	2. For adults 20 to 39 years of age, it is reasonable to assess traditional ASCVD risk factors at least every 4 to 6 years (S2.2-1–S2.2-3).
IIa	B-NR	3. In adults at borderline risk (5% to <7.5% 10-year ASCVD risk) or intermediate risk ($\geq 7.5\%$ to <20% 10-year ASCVD risk), it is reasonable to use additional risk-enhancing factors to guide decisions about preventive interventions (e.g., statin therapy) (S2.2-4–S2.2-14).
IIa	B-NR	4. In adults at intermediate risk ($\geq 7.5\%$ to <20% 10-year ASCVD risk) or selected adults at borderline risk (5% to <7.5% 10-year ASCVD risk), if risk-based decisions for preventive interventions (e.g., statin therapy) remain uncertain, it is reasonable to measure a coronary artery calcium score to guide clinician–patient risk discussion (S2.2-15–S2.2-31).
IIb	B-NR	5. For adults 20 to 39 years of age and for those 40 to 59 years of age who have <7.5% 10-year ASCVD risk, estimating lifetime or 30-year ASCVD risk may be considered (S2.2-1, S2.2-2, S2.2-32–S2.2-35).



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TSH – WNL

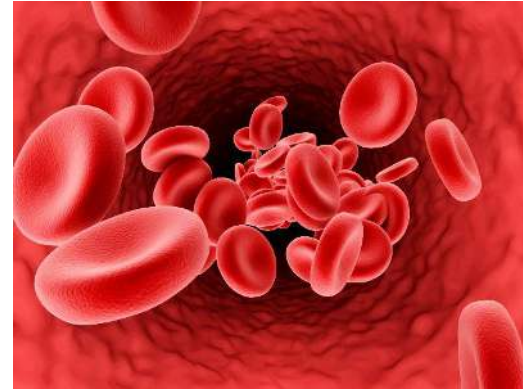
GFR: 83 mL/min

Would you add Aspirin to her Medications?
Any other information needed??

Risk for GI Bleed with Aspirin

Risk Factors :

- History of previous GI Bleeding, peptic ulcer disease, or bleeding at other sites (eg Epistaxis)
- Age > 70
- Thrombocytopenia, coagulopathy, CKD
- Long duration with higher doses
- Concurrent use of other medications that increase bleeding risk (nonsteroidal anti-inflammatory drugs, steroids, direct oral anticoagulants, and warfarin)
- Current smoking
- Elevated Mean blood pressure



Whitlock EP, Burda BU, Williams SB, et al. Bleeding risks with aspirin use for primary prevention in adults: a systematic review for the U.S. Preventive Services Task Force. *Ann Intern Med.* 2016;164:826- 35.

Bleeding Risks With Aspirin Use for Primary Prevention in Adults: A Systematic Review for the U.S. Preventive Services Task Force

Evelyn P. Whitlock, et al. MPP *Ann Intern Med.* 2016;164(12):826-835.

Mrs. Smith Pooled Cohort Equation Score



AMERICAN
COLLEGE of
CARDIOLOGY



American
Heart
Association

ASCVD
Risk Estimator

Estimator

Recommendation ↻

10-Year ASCVD Risk

13.3% calculated risk

0.9% risk with optimal risk factors ⓘ

Lifetime ASCVD Risk

50% calculated risk

8% risk with optimal risk factors ⓘ

1. Initiating a moderate intensity statin is indicated for diabetes patients without multiple risk factors. (I,A)
2. If diabetes patient has multiple ASCVD risk factors, high intensity statin is reasonable to reduce LDL-C by at least 50%. (IIa, B)
3. In addition to generally applicable risk factors, DM-specific risk enhancers include long duration (≥ 10 years for T2D or ≥ 20 year for T1D; albuminuria ≥ 30 mcg albumin/mg creatinine; eGFR < 60 ml/min/m²; retinopathy; and neuropathy.
4. Aspirin??

4.6. Aspirin Use

Recommendations for Aspirin Use

Referenced studies that support recommendations are summarized in [Online Data Supplements 17 and 18](#).

COR	LOE	Recommendations
IIb	A	1. Low-dose aspirin (75-100 mg orally daily) might be considered for the primary prevention of ASCVD among select adults 40 to 70 years of age who are at higher ASCVD risk but not at increased bleeding risk (S4.6-1–S4.6-8).
III: Harm	B-R	2. Low-dose aspirin (75-100 mg orally daily) should not be administered on a routine basis for the primary prevention of ASCVD among adults >70 years of age (S4.6-9).
III: Harm	C-LD	3. Low-dose aspirin (75-100 mg orally daily) should not be administered for the primary prevention of ASCVD among adults of any age who are at increased risk of bleeding (S4.6-10).