

# Primary prevention of CAD/ACS

DR. BOB FARHAM  
INTERVENTIONAL CARDIOLOGIST  
ESSENTIA FARGO  
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## Learning objectives:

- Who is **ASPIRIN** recommended for as primary prevention?
- Who are **STATINS** recommended for as primary prevention?
- What are the methods to treat those with elevated cardiovascular risk in those who haven't tolerated statins in the past?

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## Structure for primary prevention of ASCVD

- Assess risk
- Aspirin
- Blood pressure
- Cholesterol
- Cigarette smoking
- Diabetes
- Diet and weight
- Exercise
- Economic and social factors

The ABCs of Primary Cardiovascular Prevention: 2015 Update

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## Cardiovascular risk assessment

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). <sup>S2.2-1,S2.2-2</sup>
Ila	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. <sup>S2.2-1-S2.2-3</sup>

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease Executive Summary A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

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## Aspirin: The current state of primary prevention

Clinical Review & Education

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

### Aspirin Use to Prevent Cardiovascular Disease

US Preventive Services Task Force Recommendation Statement

US Preventive Services Task Force

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## Aspirin: The current state of primary prevention

OBJECTIVES:

- To determine the effectiveness of ASA to reduce the risk of CVD events, CV mortality and all cause mortality without a history of CVD
- To determine the effect of ASA use on colorectal cancer (CRC) incidence and mortality in primary prevention populations
- To determine the harms, particularly bleeding, associated with ASA use

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### Aspirin: The current state of primary prevention

- ▶ POPULATION:
  - ▶ 40 or older
  - ▶ No known CVD (including MI/CVA)
  - ▶ No symptoms or signs of CVD
  - ▶ Not at increased risk for bleeding
    - ▶ No gastric ulcers
    - ▶ No recent bleeding
    - ▶ No medications that increase bleeding risk

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### Aspirin: The current state of primary prevention

- ▶ RESULTS:
  - ▶ 13 RCT
  - ▶ n 161 680
  - ▶ Most 100 mg/day or less
  - ▶ Most balanced M:F
  - ▶ Mean age 53 yo (PHS) -> 74 yo (ASFREE)

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### Aspirin: The current state of primary prevention

- ▶ RESULTS:
  - ▶ CVD
    - ▶ Decreased risk of non fatal MI (Pooled analysis of 11 trials; n 134 470)
      - ▶ OR 0.88 (95% CI 0.80-0.96)
    - ▶ Decreased risk of non fatal ischemic CVA (Pooled analysis of 5 trials; n 54 947)
      - ▶ OR 0.88 (95% CI 0.70-1.00)
    - ▶ Fatal CV events were less common so no statistically significant effect on fatal MI, fatal CVA, CV mortality or all cause mortality

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### Aspirin: The current state of primary prevention

- ▶ RESULTS:
  - ▶ CRC incidence
    - ▶ 4 studies found no association between ASA use and CRC incidence at 10 years
    - ▶ 1 study reported a lower incidence of CRC
      - ▶ WHS (n 39 876) showed OR 0.82 (95% CI 0.69-0.98) at 17.5 years but effect did not persist from 17.5 -> 26 years
  - ▶ CRC mortality
    - ▶ 1 study reported increased mortality
      - ▶ ASFREE OR 1.74 (0.95 CI, 1.02-2.95) at 4.7 years
    - ▶ 2 studies showed improved mortality when observational follow up beyond the trial phase (TPI and WHS)

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### Aspirin: The current state of primary prevention

- ▶ RESULTS:
  - ▶ GIB
    - ▶ 10 studies (n 119 130) showed an increased risk
      - ▶ OR 1.58 (95% CI, 1.38-1.80)
    - ▶ Unable to ascertain whether link with fatal GIB
  - ▶ ICH
    - ▶ 11 studies (n 134 470) showed an increased risk
      - ▶ OR 1.31 (95% CI, 1.11-1.54)
    - ▶ No association with fatal hemorrhagic CVA

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### Aspirin: The current state of primary prevention

Adults aged 40 to 59 years with a 10% or greater 10-year cardiovascular disease (CVD) risk	The decision to initiate low-dose aspirin use for the primary prevention of CVD in adults aged 40 to 59 years who have a 10% or greater 10-year CVD risk should be an individual one. Evidence indicates that the net benefit of aspirin use in this group is small. Persons who are not at increased risk for bleeding and are willing to take low-dose aspirin daily are more likely to benefit.	C
Adults 60 years or older	The USPSTF recommends against initiating low-dose aspirin use for the primary prevention of CVD in adults 60 years or older.	D

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### Aspirin: The current state of primary prevention

Recommendations for Aspirin Use  
Referenced studies that support recommendations are summarized in Online Data Supplements 17 and 18.

COR	LOE	RECOMMENDATIONS
IB	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 (54.6-1-54.6-8).
IB-ASAP	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 (54.6-9).
IB-ASAP	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 (54.6-10).

2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

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### Aspirin: The current state of primary prevention

- ▶ STOPPING AGE:
  - ▶ Net benefits continue to accrue over time in the absence of a bleeding event
  - ▶ Net benefits generally become progressively smaller with advancing age because of an increased risk for bleeding
  - ▶ Modelling data suggest that it may be reasonable to consider stopping ASA around 75 yo

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### Statins: The current state of primary prevention

Clinical Review & Education

JAMA | US Preventive Services Task Force | RECOMMENDATION STATEMENT

#### Statin Use for the Primary Prevention of Cardiovascular Disease in Adults

US Preventive Services Task Force Recommendation Statement

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### Statins: The current state of primary prevention

Population	Recommendation	Grade
Adults aged 40 to 75 years who have 1 or more cardiovascular risk factors and an estimated 10-year cardiovascular disease (CVD) risk of 10% or greater	The USPSTF recommends that clinicians prescribe a statin for the primary prevention of CVD for adults aged 40 to 75 years who have 1 or more CVD risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking) and an estimated 10-year risk of a cardiovascular event of 10% or greater.	B
Adults aged 40 to 75 years who have 1 or more cardiovascular risk factors and an estimated 10-year CVD risk of 7.5% to less than 10%	The USPSTF recommends that clinicians selectively offer a statin for the primary prevention of CVD for adults aged 40 to 75 years who have 1 or more CVD risk factors (ie, dyslipidemia, diabetes, hypertension, or smoking) and an estimated 10-year risk of a cardiovascular event of 7.5% to less than 10%. The likelihood of benefit is smaller in this group than in persons with a 10-year risk of 10% or greater.	C
Adults 76 years or older	The USPSTF concludes that the current evidence is insufficient to assess the balance of benefits and harms of initiating a statin for the primary prevention of CVD events and mortality in adults 76 years or older.	I

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### Statins: The current state of primary prevention

- ▶ RESULTS:
  - ▶ Muscle pain
    - ▶ 9 trials (n 44 388) showed no increase in myalgia vs placebo
  - ▶ Myopathy or rhabdomyolysis
    - ▶ No association
  - ▶ Transaminitis
    - ▶ 13 trials (n 71 733) showed no difference between statin and placebo
  - ▶ Diabetes
    - ▶ 6 trials (n 59 083) showed no difference
      - ▶ RR 1.04 [95% CI 0.92-1.19] P .50%
    - ▶ JUPITER trial reported increased risk of DM with statin use
      - ▶ 3.0% vs 2.4% RR 1.25 [95% CI 1.05-1.46]
      - ▶ Limited to patients with 8F [metabolic syndrome, IFG, BMI 30 or more, A1C > 6.5]

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### Statins: The current state of primary prevention

Circulation

ACC/AHA CLINICAL PRACTICE GUIDELINE

#### 2019 ACC/AHA Guideline on the Primary Prevention of Cardiovascular Disease

A Report of the American College of Cardiology/American Heart Association Task Force on Clinical Practice Guidelines

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## Statins: The current state of primary prevention

**Primary Prevention: Assess ASCVD Risk in Each Age Group**  
Emphasize Adherence to Healthy Lifestyle

**ASCVD Risk Assessment**  
 1. Estimate 10-year ASCVD risk using a validated risk calculator (e.g., Pooled Cohort Equations, QRISK2, SCORE2, etc.).  
 2. Consider clinical judgment, patient preferences, and other factors (e.g., family history, social determinants of health, etc.).  
 3. Consider the patient's overall health and the potential benefits and risks of statin therapy.

**ASCVD Risk Categories**  
 • **Very High Risk:** ASCVD risk ≥ 20%  
 • **High Risk:** ASCVD risk 10%–19%  
 • **Intermediate Risk:** ASCVD risk 5%–9%  
 • **Low Risk:** ASCVD risk < 5%

**Treatment Recommendations**  
 • **Very High Risk:** High-intensity statin therapy (e.g., atorvastatin 40–80 mg daily or rosuvastatin 20–40 mg daily).  
 • **High Risk:** High-intensity statin therapy (e.g., atorvastatin 40–80 mg daily or rosuvastatin 20–40 mg daily).  
 • **Intermediate Risk:** Moderate-intensity statin therapy (e.g., atorvastatin 20–40 mg daily or rosuvastatin 10–20 mg daily).  
 • **Low Risk:** Low-intensity statin therapy (e.g., atorvastatin 10–20 mg daily or rosuvastatin 5–10 mg daily).

**Additional Considerations:**  
 • Consider the patient's overall health and the potential benefits and risks of statin therapy.  
 • Consider the patient's preferences and the potential for adherence.  
 • Consider the patient's social determinants of health and the potential for adherence.  
 • Consider the patient's family history and the potential for adherence.  
 • Consider the patient's social determinants of health and the potential for adherence.

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## Summary

- ▶ It's all about the risk
  - ▶ Use a risk assessment tool
- ▶ Regarding aspirin, think 40-60-10
- ▶ Regarding statins, think 40-75-10

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