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USPSTF updates recommendations on aspirin and CVD

New evidence is reshaping the role of low-dose aspirin in primary prevention. More selective decisions are now urged.

In April 2022, the US Preventive Services Task Force (USPSTF) issued new recommendations for the use of aspirin to prevent cardiovascular disease (CVD).¹ These recommendations differ markedly from those issued in 2016.

First, for individuals ages 40 through 59 years who have a $\geq 10\%$ 10-year risk of CVD, the decision to initiate low-dose aspirin to prevent CVD is selective. This is in contrast to the 2016 recommendation that advised offering aspirin to any individual ages 50 to 59 whose 10-year risk of CVD was $\geq 10\%$ and whose life expectancy was at least 10 years (TABLE).

Second, according to the new recommendations, individuals who are ages 60 years and older should not initiate low-dose aspirin for the primary prevention of CVD. Previously, selected individuals ages 60 to 69 could be advised to take low-dose aspirin.

The 2016 recommendations also considered the potential benefit of aspirin for preventing colorectal cancer. The 2022 recommendations are silent on this topic, because the USPSTF now concludes that the evidence is insufficient to form an opinion about it.

Important details to keep in mind

These new recommendations pertain to those without signs or symptoms of CVD or known CVD. They do not apply to the use of aspirin for harm reduction or tertiary prevention in those with known CVD. Moreover, the recommendations address the initiation of aspirin at

the suggested dose of 81 mg/d, not the continuation of it by those already using it (more on this later). The tool recommended for calculating 10-year CVD risk is the one developed by the American College of Cardiology (ACC) and the American Heart Association (AHA) (www.cvriskcalculator.com).

An ongoing controversy. Daily low-dose aspirin for the prevention of CVD has been controversial for decades. The TABLE shows how USPSTF recommendations on this topic have changed from 2009 to the present. In 2009, the recommendations were primarily based on 2 studies; today, they are based on 13 studies and a microsimulation to estimate the benefits and harms of aspirin prophylaxis at different patient ages.² This increase in the quantity of the evidence, as well as the elevation in quality, has led to much more nuanced and conservative recommendations. These new recommendations from the USPSTF align much more closely with those of the ACC and the AHA, differing only on the upper age limit at which aspirin initiation should be discouraged (60 years for the USPSTF, 70 for ACC/AHA).

Advise aspirin use selectively per the USPSTF recommendations

Several issues must be addressed when considering daily aspirin use for those ages 40 through 59 years (C recommendation; see TABLE for grade definitions):

- Risk of bleeding is elevated with past or current peptic ulcer disease, diabetes,

TABLE

History of USPSTF recommendations on the use of aspirin as primary prevention for cardiovascular disease

2022	2016	2009
C RECOMMENDATION Ages 40-59 with $\geq 10\%$ 10-year risk of CVD	B RECOMMENDATION Ages 50-59 with $\geq 10\%$ 10-year risk of CVD, at least 10-year life expectancy, and not at risk of bleeding	A RECOMMENDATION Men ages 45-79 when potential benefit in MI reduction is greater than harm due to an increase in GI bleeding Women ages 55-79 when potential reduction in stroke is greater than harm due to an increase in GI bleeding
D RECOMMENDATION Ages ≥ 60	C RECOMMENDATION Ages 60-69	D RECOMMENDATIONS Women < 55 years Men < 45 years
	INSUFFICIENT EVIDENCE < 50 and ≥ 70 years	

CVD, cardiovascular disease; GI, gastrointestinal; MI, myocardial infarction.

Grade A: There is a high certainty of substantial benefit. *Offer service.*

Grade B: There is a high certainty of moderate benefit; or moderate certainty of moderate/substantial benefit. *Offer service.*

Grade C: There is moderate certainty of small benefit. *Offer service selectively.*

Grade D: There is moderate or high certainty of no benefit, or that harms outweigh the benefits. *Discourage service.*

I statement: Current evidence is insufficient to assess the balance of benefits and harms of this service.

smoking, high blood pressure, and the use of anti-inflammatory medications, steroids, and anticoagulants.

- The harms from bleeding complications tend to occur early in the use of aspirin and can include gastrointestinal bleeding, intracranial bleeding, and hemorrhagic stroke.
- The higher the 10-year CVD risk, the greater the benefit from low-dose aspirin.
- Benefits of aspirin for the prevention of CVD increase with the number of years of use.
- If an individual has been taking low-dose aspirin without complications, a reasonable age to discontinue its use is 75 years because little incremental benefit occurs with use after that age.

■ More on low-dose aspirin benefits and harms. What exactly is the absolute benefit and harm from daily low-dose aspirin use for primary prevention of CVD? As one might expect, it varies by age. Researchers used a microsimulation model to examine updated

clinical data from systematic reviews. Looking at life years gained, the largest benefit was in men with a 10-year CVD risk of 20% and aspirin initiated between the ages of 40 and 49.³ This resulted in 52.4 lifetime years gained per 1000 people.³ The results from a meta-analysis of 11 studies, published in the evidence report, found an absolute reduction in major CVD events of 0.4% (number needed to treat = 250) and an absolute increase in major bleeds of 0.5% (number needed to harm = 200).² There was no reduction found for CVD-related or all-cause deaths.

■ One reason for the increased caution on using aspirin as primary prevention for CVD is the role that statins now play in reducing CVD risk, a factor not accounted for in the studies assessed. It is unknown if the addition of aspirin to statins is beneficial. Remember that the USPSTF recommends the use of a low- to moderate-dose statin in those ages 40 to 75 years if they have one or more CVD risk factors and a 10-year CVD risk $\geq 10\%$.⁴

■ How aspirin use might change. The use of aspirin for CVD prevention is widespread. One analysis estimates that one-third of those

ages 50 years and older are using aspirin for CVD prevention, including 45% of those older than 75.⁵ If the recommendations from the USPSTF are widely adopted, there could be a gradual decrease in aspirin use for primary prevention with little or no effect on overall population health. Other interventions such as smoking prevention, weight reduction, high blood pressure control, and targeted use of statins—if more widely used—would contribute to the downward trend in CVD deaths that has occurred over the past several decades, with fewer complications caused by regular aspirin use.

Take-home message

Follow these steps when caring for adults ages 40 years and older who do not have known CVD:

1. Assess their 10-year CVD risk using the ACC/AHA tool. If the risk is $\geq 10\%$:
 - Discuss the use of a low- or moderate-dose statin if they are age 75 years or younger.
 - Discuss the potential for benefit and harm of low-dose aspirin if they are between the ages of 40 and 59 years.
 - Mention to those taking daily low-dose aspirin that it has low benefit if continued after age 75.

2. Perform these interventions:

- Screen for hypertension and high cholesterol.
- Screen for type 2 diabetes and pre-diabetes in patients up to age 70 years who are overweight or obese.
- Ask about smoking.
- Measure body mass index.
- Offer preventive interventions when any of these CVD risks are found. **JFP**

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