ADVERTISEMENT

THE BENEFITS OF ASPIRIN IN THE PREVENTION OF SECONDARY CV EVENTS

Cardiovascular (CV) events are common and present a significant risk to patients

Despite advances in modern medicine, myocardial infarction (MI) and ischemic stroke occur frequently in the United States, with significant long-term risks to patients. **Nearly 1.5 million people have a new or recurrent MI or ischemic stroke each year,** according to the National Heart, Lung, and Blood Institute.[1]

Annual incidence of selected CV events[1]

MI: 805,000*	Ischemic stroke: 692,000
– 605,000 initial	– 531,000 initial
– 200,000 recurrent	– 161,000 recurrent

Evidence supports continued use of aspirin after MI or stroke

In recurrent MI: A meta-analysis of 16 secondary prevention trials compared long-term aspirin therapy with controls in 17,000 patients at high to average risk. It concluded that **low-dose aspirin can reduce the risk of a second, nonfatal MI by 31%**.[2] It is important that patients already on a low-dose aspirin regimen continue their regimen: a study of almost 40,000 individuals aged 50-84, followed for a mean of 3.2 years, assessed the risk of nonfatal MI or death from coronary heart disease. It showed that **discontinuing low-dose aspirin can increase the risk of MI by 63%**.[3]

Table 1. Risk changes with low-dose aspirin after MI

Condition	Reduction with aspirin therapy[2]	Increase after aspirin discontinuation[3]
MI	31%	63%

In ischemic stroke: The same meta-analysis showed that **aspirin reduced the risk of recurrent ischemic stroke by 22%**.[2] As with MI, maintaining an aspirin regimen after an ischemic stroke is key. **Discontinuing low-dose aspirin can increase the risk of recurrent stroke or transient ischemic attack by 40%**.[4]

Table 2. Risk changes with low-dose aspirin after ischemic stroke

Condition	Reduction with aspirin therapy[2]	Increase after aspirin discontinuation[4]
Ischemic stroke	22%	40%

*An estimated 170,000 MIs are silent.[1]

Low-dose aspirin has a clinically proven benefit-to-risk profile

Aspirin use for the secondary prevention of CV events has a favorable benefit-to-risk profile and should be strongly considered as part of a treatment plan for appropriate patients. A meta-analysis of 6300 patients using lower doses of aspirin (≤325 mg/day) for prolonged intervals found **the annual risk of severe gastrointestinal (GI) hemorrhage was less than 1%** and 1.5 deaths were prevented for every nonfatal GI bleed caused by aspirin.[5] In addition, a review of 22 randomized clinical trials found that the **risk of a GI-related adverse event with low-dose aspirin was not significantly different from that of placebo**.[6]

> **"The net benefits of adding aspirin would substantially exceed the bleeding hazards, irrespective of age or sex."[2]**
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> *—Antithrombotic Trialists' Collaboration. Lancet. 2009;373(9678):1849-1860.*

Practice guidelines support aspirin use

Practice guidelines from leading organizations recommend aspirin as a first-line treatment for prevention of secondary CV events.

Table 3. Associations recommending aspirin first line

Organization	Recommendation
American College of Chest Physicians[7]	Grade 1A
American Heart Association/ American Stroke Association[8]	Class I, level of evidence A
American Heart Association/ American College of Cardiology Foundation[9]	Class I, level of evidence A
American Heart Association/ American College of Cardiology[10]	Class I, level of evidence A

Aspirin—integral to dual antiplatelet therapy (DAPT)

Aspirin is effective when taken alone, and also a key component of DAPT with medications including clopidogrel bisulfite,[11] ticagrelor,[12] and prasugrel.[13]

Healthcare providers play a key role in secondary prevention

A cross-sectional analysis of a representative sample, 3599 U.S. adults aged ≥40 years from the National Health and Nutrition Examination Survey, confirms that **91% of patients with CV disease adhered to the aspirin regimen recommended by their doctors**.[14] As the authors comment, "a health-care provider's recommendation to take preventive aspirin appears to be a key determinant of current preventive aspirin use."[14]

References: 1. Benjamin EJ, Muntner P, Alonso A, et al. *Circulation*. 2019;139:e56–e528. doi: 10.1161/CIR.0000000000000659. **2.** Antithrombotic Trialists' (ATT) Collaboration. *Lancet*. 2009;373 (9678):1849-1860. **3.** Garcia Rodríguez LA, Cea-Soriano L, Martín-Merino E, Johansson S. *BMJ*. 2011;343:d4094. **4.** Garcia Rodríguez LA, Cea Soriano L, Hill C, Johansson S. *Neurology*. 2011;76: 740-746. **5.** Weisman SM, Graham DY. *Arch Intern Med*. 2002;162:2197–2202. **6.** McQuaid KR, Laine L. *Am J Med*. 2006;119:624-638. **7.** Lansberg MG, O'Donnell MJ, Khatri P, et al. *Chest*. 2012;141(suppl 2):e601S-e636S. **8.** Kernan WN, Ovbiagele B, Black HR, et al. *Stroke*. 2014;45:2160-2236. **9.** Smith SC Jr, Benjamin EJ, Bonow RO, et al; World Heart Federation and the Preventive Cardiovascular Nurses Association. *Circulation*. 2011;124(22):2458-2473. **10.** Amsterdam EA, Wenger NK, Brindis RG, et al. *J Am Coll Cardiol*. 2014;64:e139-228. **11.** Plavix® (clopidogrel bisulfate) [Prescribing Information]. Bridgewater, NJ: Bristol-Myers Squibb/Sanofi Pharmaceuticals Partnership; 2018. **12.** Brilinta® (ticagrelor) [Prescribing Information]. Wilmington, DE: AstraZeneca LP; 2018. **13.** Effient® (prasugrel) [Prescribing Information]. Indianapolis, IN: Eli Lilly and Company; 2018. **14.** Gu Q, Dillon CF, Eberhardt MS, Wright JD, Burt VL. *Public Health Rep*. 2015;130(6):643-654.

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