



Aspirin—yes?—no?—maybe?

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KEY POINTS

- Aspirin for cardiovascular secondary prevention: Yes
- Aspirin for cardiovascular primary prevention: No—unless the CVD risk is greater than 15%
- Aspirin for cancer prevention: Probably not (yet)

Aspirin in primary prevention for cardiovascular disease

There have been four meta-analyses,^{1–4} involving nine randomised controlled trials,^{5–13} of the potential benefits of aspirin in primary prevention. The meta-analyses have had some variation, but are consistent in their conclusions.

There is no significant difference between aspirin and no aspirin for all-cause mortality, cardiovascular mortality or all-cause stroke when aspirin is used for primary prevention. Any benefit for reduced risk of myocardial infarction (MI) is marginal, primarily due to reduced risk of non-fatal MI. Most of the trials had participants who were at higher risk of a cardiovascular event, e.g. across the trials, 11–32% were smokers, and five of the trials used concomitant medicines therapy. The number needed to treat per year to prevent one MI is 500–1400^{2–4} and the number needed to harm per year from a major bleed is 300–3000.^{2,3}

For people with a cardiovascular risk more than 15%, consider blood pressure-lowering medicines and/or a statin. If the cardiovascular risk remains over 15%, consider adding low-dose aspirin. When deciding to add aspirin remember the elderly are at greater risk of bleeding, and concurrent medicines such as NSAIDs, SSRIs and tramadol may contribute to the antiplatelet effect and increased bleeding risk.

So, should all people with diabetes be on aspirin?

There have been five primary prevention meta-analyses of aspirin for people with diabetes but no other cardiovascular disease, involving seven randomised controlled trials.^{6,8,11,12,14–16} There was no significant difference in the aspirin versus no

aspirin groups for all-cause mortality, cardiovascular mortality, MI, cardiovascular events or stroke. As for primary prevention in people without diabetes, calculate the cardiovascular risk and treat people with a risk greater than 15%, taking into account the risk-lowering effects of blood pressure-lowering medicines and statin.

So what about the proposed reduction in cancer risk?

A recent meta-analysis of aspirin prophylaxis in people without prior cardiovascular disease found no reduction in cardiovascular or cancer mortality with the use of aspirin. There may be a place for 'at risk' people, e.g. with a history of adenomas or colorectal cancer.

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NUGGETS of KNOWLEDGE provides succinct summaries of pharmaceutical evidence about treatment of common conditions presenting in primary care and possible adverse drug reactions.

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Resveratrol

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Resveratrol is sold as a nutritional supplement. In the lay press we are informed of its significant benefits on 'heart health', but where does the evidence lie?

PREPARATIONS: A product derived from various sources of resveratrol that is most commonly available in capsule form.

ACTIVE CONSTITUENTS: Resveratrol is a polyphenol. Commercially available formulations are predominantly derived from red grape skin, but may also contain turmeric, grape seed extract, pine bark, green tea, the herb *Polygonum cuspidatum* (Japanese knotweed), ascorbic acid, citrus bioflavonoids extract.

MANUFACTURER CLAIMS: Resveratrol is claimed to support energy naturally, joint mobility, muscle health, heart and vascular health, brain health, prostate and breast health, healthy ageing, cell protection. As an antioxidant it is suggested to support general wellbeing.

EVIDENCE FOR EFFICACY: There are 32 trials listed in the Cochrane Library, but no Cochrane Review is available. A 2011 systematic review by Vang et al. suggests evidence is not sufficiently strong to justify the routine use of resveratrol in humans.

ADVERSE EFFECTS: Evidence on long-term effects of resveratrol is limited to animal studies; only a few, short-term or acute exposure studies in humans have been reported. Mild diarrhoea, temporary rash and headache have been reported in the short term at the higher doses of 2.5 to 5 g/day.

DRUG INTERACTIONS: In theory, inactivation of CYP3A4 by resveratrol may cause clinically relevant drug interactions with CYP3A4 substrates. CYP3A4 is an enzyme involved in the metabolism of many drugs, which undergo deactivation by CYP3A4 either directly or by facilitated excretion from the body. There is a scarcity of clinical studies which profile drug interactions with resveratrol in human patients.

Key references

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Summary Message

Although animal data may appear to be promising, the literature in humans reports that the collective evidence is not sufficiently strong to justify a recommendation for the administration of resveratrol to humans, beyond the dose available from dietary sources.

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Herbal medicines are a popular health care choice, but few have been tested to contemporary standards. **POTION OR POISON?** summarises the evidence for the potential benefits and possible harms of well-known herbal medicines.