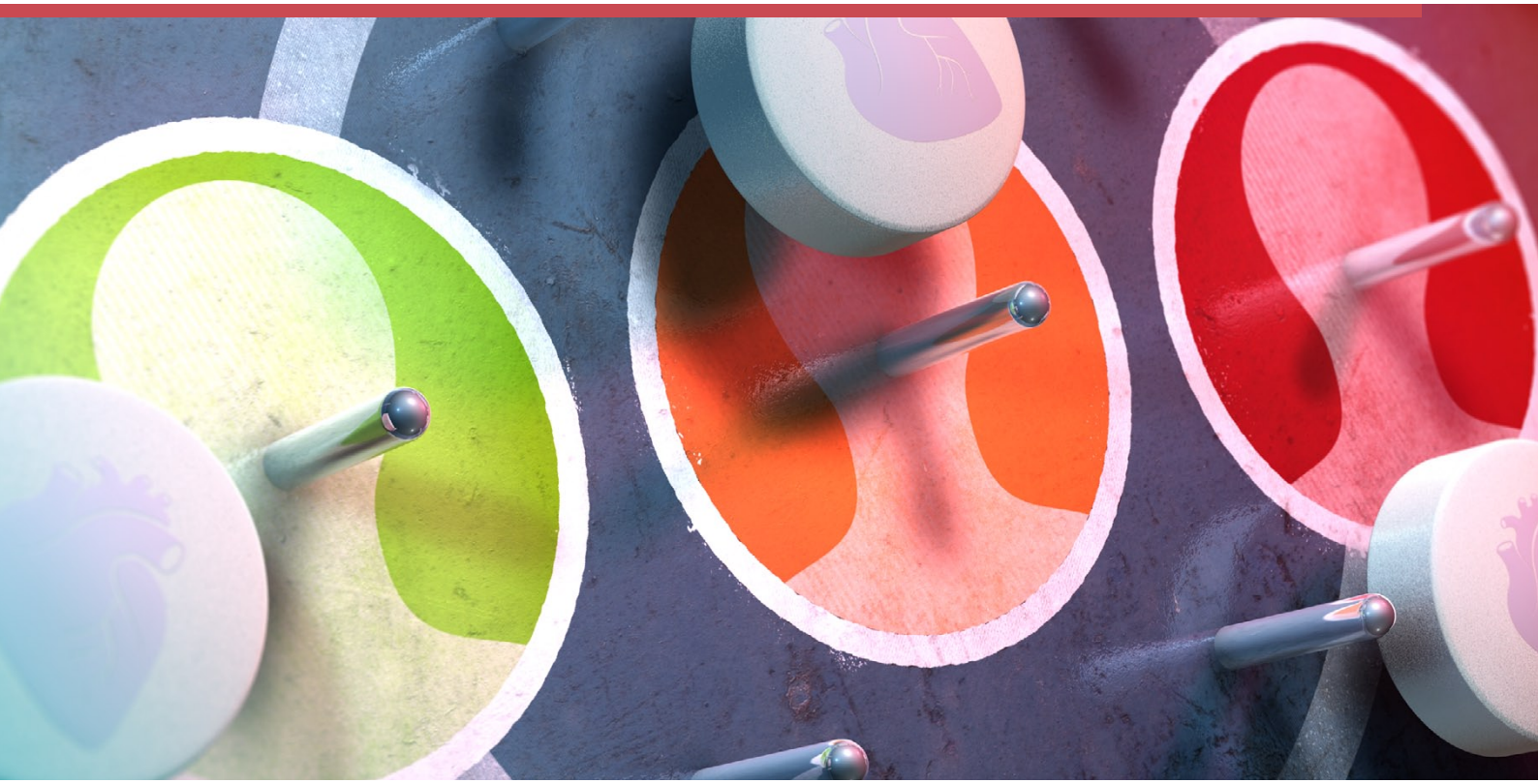

Cardiovascular disease risk assessment in primary care: **the role of aspirin**

In February 2018, the Ministry of Health released the Cardiovascular Disease Risk Assessment and Management for Primary Care consensus statement which included new guidance on the use of aspirin in cardiovascular disease (CVD) management. Aspirin as a primary prevention strategy should now only be considered in people aged under 70 years with an estimated high five-year CVD risk (≥ 15%). The risk of bleeding is considered to outweigh the benefit in people aged over 70 years.

KEY PRACTICE POINTS:

- Aspirin is not recommended in patients aged ≥ 70 years for primary prevention, regardless of their CVD risk level
- In patients aged < 70 years, aspirin should only be considered for primary prevention when their five-year CVD risk is ≥ 15%
- Aspirin is recommended in all patients with established CVD for secondary prevention
- The benefits and risks associated with aspirin use should be carefully discussed with patients to facilitate an individualised decision on treatment

This article is part of a series on the new cardiovascular guidelines for primary care. For additional information on cardiovascular risk assessment, blood pressure management and lipid management see: "What's new in cardiovascular disease risk assessment and management for primary care clinicians", **www.bpac.org.nz/2018/cvd.aspx**, "Cardiovascular disease risk assessment in primary care: managing blood pressure", **www.bpac.org.nz/2018/bp.aspx** and "Cardiovascular disease risk assessment in primary care: managing lipids", **www.bpac.org.nz/2018/lipids.aspx**

A full copy of the consensus statement is available from the Ministry of Health website: **https://www.health.govt.nz/publication/cardiovascular-disease-risk-assessment-and-management-primary-care**

Five-year CVD risk and age should inform use of aspirin in CVD management

Multiple trials demonstrate that aspirin reduces rates of myocardial infarction and stroke in people with a history of CVD.[1] While aspirin also increases peptic ulceration and bleeding in this group, the benefits associated with secondary prevention are generally considered to outweigh the risks.[1, 2] In patients without a history of cardiovascular events (i.e. primary prevention) the evidence supporting aspirin use is less convincing and it is unclear which patient groups would benefit the most from intervention.[2, 3]

The Cardiovascular Disease Risk Assessment and Management for Primary Care consensus statement (2018) continues to recommend a risk-based approach for the management of CVD with aspirin, applying a newly defined assessment of the patient's estimated five-year CVD risk.*[4] Under this framework, aspirin should be considered in patients at high-risk of CVD (≥ 15%). In addition, it is emphasised that patient age should now be factored in when reviewing the suitability of aspirin in primary prevention based on mounting evidence that the benefits in patients aged ≥ 70 years without a history of CVD do not outweigh risk of bleeding, regardless of CVD risk.[1–4] This advice is likely to be new for general practitioners following previous guidance to provide aspirin for primary prevention in all patients at high-risk of CVD.

* The NZ Primary Prevention equations are not yet fully available for clinicians to use in practice, but the 2018 CVD risk assessment Consensus Statement recommendations based on categorisations of risk can now be used. A Canadian interactive online CVD risk calculator now includes the ability to estimate risks and benefits based on the Predict equations. It is available at: http://chd.bestsciencemedicine.com/calc2.html

Discuss the potential benefit of aspirin with patients

The updated CVD statement highlights that patients should be aware of the magnitude of benefits associated with aspirin (e.g. reduction in relative risk) so they can be carefully weighed against the risk of bleeding. Patients should be included in the decision-making process to assess whether this risk of bleeding is acceptable in the context of their CVD risk, co-morbidities, quality of life and life-expectancy.

Emerging evidence supports recommendations in the CVD consensus statement

Following the release of the CVD consensus statement, additional data has been published from several large clinical trials that corroborates its recommendations.

The **ARRIVE** study demonstrated that daily low dose aspirin (100 mg) did not reduce the long-term risk for cardiovascular or cerebrovascular events in more than 12,000 adults aged ≥ 55 years considered to be at a moderate risk of CVD.[5] In particular, stroke incidence did not differ significantly between treatment and placebo groups, while rates of gastrointestinal bleeding and other minor bleeding were increased with aspirin.

In the **ASPREE** study, low dose aspirin for primary prevention in 19,114 patients aged ≥ 70 years also did not reduce rates of all cardiovascular events, while significantly increasing the risk of major haemorrhage.[6]

Diabetes mellitus is associated with a substantially increased CVD risk, meaning patients are generally excluded from primary prevention trials.[4] In the **ASCEND** study, over 15,000 adults aged ≥ 40 years with any type of diabetes and no prior history of cardiovascular events were randomly assigned low dose aspirin or placebo.[7] Although aspirin reduced serious cardiovascular events by 12% (8.5% versus 9.6%; p=0.01), major bleeding events increased by 29% (3.2% versus 4.1%; p=0.003), suggesting the absolute benefits were outweighed by the added risk of bleeding in patients with diabetes.[7]

When to recommend aspirin

The decision to use aspirin should be based on the patient's five-year estimated CVD risk, age and history of CVD (Table 1).[4] Regardless of the overall CVD risk level, lifestyle advice is recommended in all patients, including guidance on diet,* weight management, physical activity and smoking cessation.

* For information on dietary recommendations to support heart health see: **www.heartfoundation.org.nz/wellbeing/healthy-eating/eating-for-a-healthy-heart**

Aspirin is not recommended in people aged ≥ 70 years without a history of CVD

Regardless of overall level of CVD risk, daily use of low dose aspirin in people aged 70 years or older without a history of cardiovascular events is not recommended as the risk of major haemorrhage outweighs any potential benefits in this age group. This recommendation is reinforced by the recent ASPREE trial results.[4, 6]

This is a new addition to the consensus statement, and it is advised that CVD management should instead focus on lifestyle interventions and lipid-lowering or blood pressure-lowering medicines in accordance with the estimated CVD risk level.

Consider the use of aspirin for primary prevention in people aged < 70 years with a ≥ 15% five-year CVD risk

The benefits of aspirin may outweigh the increased risk of bleeding for primary CVD prevention in patients aged under 70 years with a ≥ 15% five-year CVD risk.[4] The consensus statement recommends that the "potential benefit (reduction in non-fatal

Table 1. Recommendations for aspirin intervention in CVD* [4, 8]

Age	Five-year CVD risk level: New CVD risk level (based on NZ Primary Prevention equations)	Five-year CVD risk level: *Old CVD risk level (based on Framingham equations)*	Recommendation for primary prevention of CVD	Recommendation for secondary prevention of CVD
< 70 years	< 5%	*< 10%*	■ **Aspirin is not recommended** ■ Intervention with lipid-lowering or blood pressure-lowering medicines has little benefit	■ **Aspirin is recommended**†** ■ Provide lifestyle advice and pharmacotherapy for modifiable risk factors
	5–15%	*10–20%*	■ **Aspirin is not recommended** ■ Discuss the benefits of lipid-lowering or blood pressure-lowering medicines	
	≥ 15%	*≥ 20%*	■ **Consider aspirin** ■ Lipid-lowering or blood pressure-lowering medicines are strongly recommended	
≥ 70 years	All levels	*All levels*	■ **Aspirin is not recommended**	
Asymptomatic carotid disease, asymptomatic coronary disease or plaque	■ **Consider aspirin** ■ Lipid-lowering or blood pressure-lowering medicines are strongly recommended			

* Five-year CVD risk recommendations directly apply to patients aged between 30–74 years without prior CVD; in people aged 75 years and older, calculations are only considered an estimate of risk but are still potentially useful in guiding treatment decisions.

† Either alone or in addition to a platelet P2Y12-receptor inhibitor (ticagrelor, clopidogrel, or prasugrel) for 12 months following non-ST-elevation acute coronary syndrome, ST-elevation myocardial infarction and coronary artery stenting.

** In patients with a high risk of gastrointestinal bleeding, addition of a proton pump inhibitor may be required.

myocardial infarction and possible small net years gained) and bleeding risk must be carefully assessed and discussed during shared decision-making".

In addition, documented coronary disease, carotid disease (plaque on ultrasound) or a high coronary calcium score on CT scan (> 400) is considered to equate to high risk (>15%) and aspirin is recommended.

Aspirin is recommended in all people with existing CVD

In patients with established CVD, aspirin is recommended for secondary prevention alongside medicines for modifiable risk factors and lifestyle advice.[4] Patients should be reviewed at least annually to assess the efficacy of management strategies.

Additional prescribing considerations for aspirin

Aspirin contraindications

Aspirin is not recommended in people with:[3, 4, 8]

- Active peptic ulceration, uncontrolled blood pressure and other major bleeding risks (including most people receiving an anticoagulant)
- Aspirin hypersensitivity/intolerance
- Severe hepatic or renal impairment

Stopping aspirin for primary prevention in people aged > 70 years

Although trials to date have not directly assessed whether patients who have been taking aspirin for primary prevention should continue use once they progress beyond the age of 70 years, it is an important consideration for primary care. In accordance with the consensus statement recommendations, all patients older than 70 years should not receive aspirin if they do not have a history of CVD, meaning de-prescribing should be considered. This recommendation is reinforced by the recent ASPREE study.[4, 6]

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