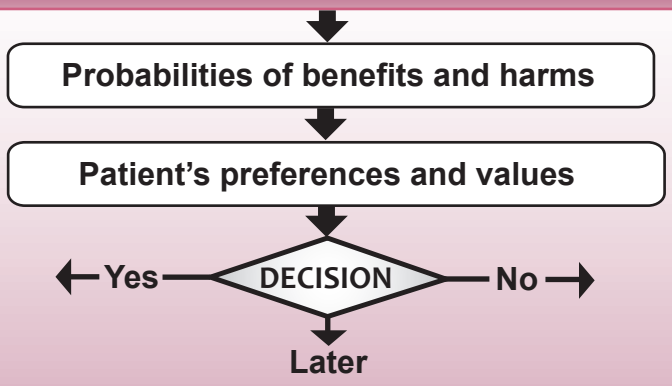
McMaster University | Université Laval | McGill

Acetylsalicylic acid (ASA) for primary prevention of cardiovascular disease



This document prepares the clinician to discuss scientific data with the patient so they can make an informed decision together.

Presenting ASA to patients

What is ASA for?

- ASA is a **medication with anti-platelet effects** that can be **taken daily** to reduce the risk of having cardiovascular disease (CVD) including coronary and cerebrovascular events.

Among individuals who have never had cardiovascular disease (primary prevention), who might consider taking ASA?

- Adults at **moderate to high risk** of developing cardiovascular disease in the next 10 years.

  The probability of having a CV event in the next 10 years is evaluated using a **risk calculator** such as the **Framingham Cardiac Risk Score*** taking into account sex, age, diabetes, smoking status, cholesterol levels and blood pressure.

  - **high risk**: more than 20% probability
  - **moderate risk**: 10-20% probability
  - **low risk**: less than 10% probability

Why do patient preferences matter when making this decision?

- **There are pros and cons to taking this medication:**

  PROS: For each 1000 low-risk individuals taking ASA for 5 years, **3 (0.3%) will be protected from a serious cardiovascular event** because of the medication.[1]

  CONS: For each 1000 low-risk individuals taking ASA for 5 years, **1-2 (0.15%) will experience a major extracranial bleed** because of the medication.[1]

- Cardiovascular disease can also be **prevented** by avoiding smoking, being physically active, maintaining a healthy body weight, moderating alcohol consumption and limiting intake of saturated fat, trans fat, cholesterol, and sugars[2] and/or by taking other medications such as statins.

- **Both taking and not taking ASA are acceptable options, so we propose that:**

  1. The decision takes into account the patient's values and preferences
  2. The clinician shares this decision with the patient

* http://www.mdcalc.com/framingham-cardiac-risk-score-si-units

See page 2 for the current state of knowledge

DECISION BOX

ASA

State of knowledge - November 2011
Selection of the best available studies

These results are based on a systematic review[1]

Study Design: systematic review of individual participant data from 6 randomized controlled trials, comparing treatment with ASA to a control group not receiving any anti-platelet drug (placebo or no treatment).
Participants: 95,000 individuals (aged 19-94, 46% men) from the UK, North America, South America, Europe and Asia who were at low average risk for CV events (less than 5% over 5 years).
Mean follow-up: 6 years.

Benefits of medication

❶ Death

No death from all causes is prevented in individuals treated with ASA.

❷ Serious vascular event

(myocardial infarction or stroke, or death from a vascular cause)

For each **1000** individuals treated with ASA for 5 years, **3 more (0.3%)** will be protected from serious cardiovascular events compared to untreated individuals.

Number of individuals, among 1000, who will **die from vascular disease** or experience a **non-fatal MI or stroke** during 5 years of treatment

Sex	Age	Treatment with ASA	Non-fatal MI/stroke and vascular death	
Women	50-59	Untreated **Treated**	11 **9**	↓2
	65-74	Untreated **Treated**	45 **39**	↓6
Men	50-59	Untreated **Treated**	39 **34**	↓5
	65-74	Untreated **Treated**	92 **80**	↓12

Harms of medication

❶ Fatal and non-fatal hemorrhagic stroke

For each **1000** individuals treated with ASA for 5 years, **1 more (0.1%)** will **experience a hemorrhagic stroke** compared to untreated individuals.

❷ Extracranial bleeding

For each **1000** individuals treated with ASA for 5 years, **1-2 more (0.15%)** will experience a major gastro-intestinal (GI) or other **extracranial bleed** compared to untreated individuals.

Number of individuals, among 1000, who will experience a major **extracranial bleed** during 5 years of treatment.

Sex	Age	Treatment with ASA	Non-fatal GI and other extracranial bleed	
Women	50-59	Untreated **Treated**	2 **3**	↑1
	65-74	Untreated **Treated**	5 **9**	↑4
Men	50-59	Untreated **Treated**	3 **5**	↑2
	65-74	Untreated **Treated**	7 **12**	↑5

***How much confidence can we have in these results? High**

The results are based on a meta-analysis of 6 randomized controlled trials. The possibility for bias exists in 2 trials that did not use a placebo with their control group, which might lead to an overestimation of the effects reported. There was no mention of any conflict of interest in the primary studies.

Questions to identify the patient's decision making needs:

- Do you have any questions about the benefits and harms of each option?
- Which benefits and harms matter most to you?
- Do you feel sure about the best choice for you?
- Who will support and advise you in making a choice?

References: **1. Baigent et al.** Lancet 2009, 373, 1849-60. **2. American Heart Association Nutrition Committee** et al. 2006. Circulation 114 (1): 82-96.