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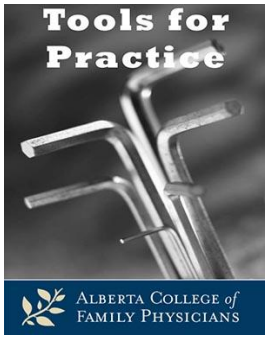
Reviewed: Jan 14, 2018
Evidence Updated: New systematic review
Bottom Line: Slight adjustment
First Published: August 9, 2010



ASA in Primary Prevention: Do the Benefits Outweigh Risks?

Clinical Question: Are the benefits worth the risks of ASA in primary prevention (patients with no history of cardiovascular disease (CVD))?

Bottom Line: Most primary prevention patients will not benefit from daily ASA therapy. It is possible that there is net benefit in higher-risk primary prevention patients. Although the best risk level to initiate ASA is uncertain, it may be those aged 40-69 years with a ≥15-20% risk of CVD over 10 years.

Evidence:

- A meta-analysis[1,2] of 11 randomized controlled trials with 118,445 patients taking ASA 75-500 mg/day followed for 3.6 to 10.1 years:
  - Reduced:
    - All-cause mortality:
      - ASA 4.2% versus 4.3% without ASA.
      - Number Needed to Treat (NNT) ~1,000 to prevent one death.
    - Non-fatal myocardial infarction:
      - ASA 1.16% versus 1.44% without ASA (NNT ~360).
  - Increased:
    - Hemorrhagic stroke (Number Needed to Harm (NNH) ~1,500).
    - Major gastrointestinal bleed (NNH ~490).
  - No significant difference in CVD mortality or stroke.
  - Limitations: Most included trials completed before use of other primary prevention therapies (e.g. statins, current blood pressure targets).
- Older meta-analyses including 6-9 of the above trials found similar.[3-6]
  - Of interest, in one meta-analysis,[4] a more inclusive definition of "non-trivial bleeding" occurred in:
    - ASA 12% versus 9.6% without ASA (NNH=42).

Context:

- Few studied patients were at "high" risk (only 2% had 5-year risk of coronary heart disease of ≥10%).[3]
- In secondary prevention (patients with established CVD), ASA benefits do outweigh risks.[3,7,8]
    - Over approximately 24-33 months, the outcomes in patients with established CVD taking 75-325 mg/day are:
        - NNT=30 for CVD.
        - NNT=72 for mortality.
        - NNH=112 for major GI bleeds.
- Cost-effectiveness analysis[9] estimates a patient's 10-year risk of CVD would have to be 15-20% for ASA in primary prevention to be cost-effective.
- Another decision analysis suggested net lifetime benefit for most men and women starting ASA at age 40-69 years, and net harm in age ≥70 with 10-year CVD risk ≤20%.[10]

Original Authors:
G. Michael Allan MD CCFP, Michael R. Kolber MD CCFP MSc

Updated:
Ricky D. Turgeon BSc(Pharm) ACPR PharmD

Reviewed:
G. Michael Allan MD CCFP

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Tools for Practice is a biweekly article summarizing medical evidence with a focus on topical issues and practice modifying information. It is coordinated by G. Michael Allan, MD, CCFP and the content is written by practising family physicians who are joined occasionally by a health professional from another medical specialty or health discipline. Each article is peer-reviewed, ensuring it maintains a high standard of quality, accuracy, and academic integrity. If you are not a member of the ACFP and would like to receive the TFP emails, please sign up for the distribution list at http://bit.ly/signupfortfps. Archived articles are available on the ACFP website.