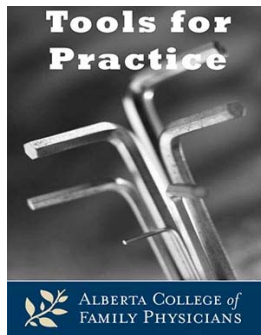


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## **ASA in Primary Prevention: Do the benefits outweigh risks?**

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

#### **Evidence:**

Two large systematic reviews / meta-analysis used the same 6 trials with 95,456 patients followed for a mean of approximately 6.5 years taking 75-500mg of ASA/day (95% at 162mg or lower).<sup>1,2</sup> Results statistically significant unless otherwise specified.

- The earlier review analyzed men (44,114) and women (51,342) separately over 6.5 years.<sup>1</sup>
  - o Males: NNT (number needed to treat) for CVD was 270 compared to a NNH (number needed to harm) for bleeds of 303
  - o Females: NNT for CVD was 333 compared to a NNH for bleeds of 400
- A recent review looked at individual patient data all pooled together:<sup>2</sup>
  - o No effect on mortality (all cause or vascular)
  - o 12% relative risk reduction in CVD
    - CVD events were 0.57%/year without ASA and 0.51%/year with ASA
    - NNT = 1428 to prevent 1 serious vascular event per year or 286 over 5 years
  - o Increased major gastrointestinal bleeds (transfusion or death)
    - Major bleeds were 0.07%/year without ASA and 0.1%/year with ASA.
    - NNH ~2800/year

#### **Context:**

- Most studied patients were low risk (only 2% had coronary heart disease 5 year risk of  $\geq 10\%$ )<sup>2</sup>
- Cochrane review of primary prevention patients with hypertension also found the benefits of ASA do not outweigh the risks<sup>3</sup>
- In secondary prevention (patient with established CVD), ASA benefits do outweigh risks<sup>4,5</sup>
  - o Over approximately 24-33 months, the outcomes in patients with established CVD taking 75-325mg/day are:
    - NNT of 30 reducing cardiovascular disease.
    - NNT of 72 reducing mortality.
    - NNH of 112 increasing major GI bleeds

- Cost effectiveness analysis estimates a patient's 10-year risk of CVD would have to be at least 15% for ASA in primary prevention to be cost-effective.<sup>6</sup>

**Bottom-line:** The majority of primary prevention patients will not benefit from daily ASA therapy. It is possible there is net benefit in higher-risk primary prevention patients. Although the best risk-level to initiate ASA is uncertain, it may be those with a 15% or more risk of CVD in 10 years.

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