ASPIRIN AND PRIMARY PREVENTION: BENEFITS & HARMs

Aspirin is useful – and sometimes critical – to treat and prevent disease. Aspirin can save lives, preventing heart attacks and strokes, and even reduce the incidence of cancer. For some patients, however, aspirin may do more harm than good. Talk to your patients about whether or not they should take aspirin.

The U.S. Preventive Services Task Force (USPSTF) recommends prescribing aspirin for prevention if benefits outweigh harms.¹

Do not prescribe aspirin for patients at low risk for cardiovascular disease events or high risk for side effects.

Aspirin’s pros & cons

Only prescribe aspirin when the benefits outweigh the harms

Benefits¹⁻⁵

- Aspirin prevents first heart attacks in men 45 years and older in those at the highest risk.
- Aspirin prevents first strokes in women 55 years and older in those at the highest risk.
- Aspirin reduces the risk of colon, rectal and other cancers.

Harms¹⁻⁹

- Aspirin increases risk of GI bleeding in men and women.
- Aspirin increases hemorrhagic strokes in men.

Aspirin for prevention: decision-making steps

Assess heart attack and stroke risk and then determine balance of aspirin benefits and harms.

Past stroke or heart attack?

10-year individualized stroke or heart attack risk assessment

Aspirin Benefits

Reduced heart attacks and ischemic strokes
Reduced cardiovascular and all cause mortality

Aspirin or alternative drug required

Increased hemorrhagic strokes and/or GI bleeding

No

Yes

1 PROVIDER BENEFITS & HARMS

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# Aspirin and Primary Prevention: Benefits & Harms

## Aspirin Prevents Cardiovascular Disease

*Results of study analyzing 95,456 individuals followed over 6.4 years*

- **Significant efficacy differences by gender**
  - Aspirin prevented first heart attacks in men 45 years and older.
  - Aspirin prevented first strokes in women 55 years and older.
- **Some gender differences in aspirin harms**
  - 69% increase in risk of hemorrhagic stroke in men
  - Likelihood of GI bleeding increased with age in both men and women.

*A review published in the Journal of the American Medical Association analyzed all aspirin trials in patients who never had a heart attack or stroke. Endpoints included: heart attacks, ischemic strokes, death, GI bleeding and hemorrhagic strokes. Aspirin dose ranged from 100 mg every other day to 500 mg daily.*

<table>
<thead>
<tr>
<th>Outcome</th>
<th>Daily low-dose aspirin in men (n=44,114)</th>
<th>Daily low-dose aspirin in women (n=51,342)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Net Effect</td>
<td>Events/10,000</td>
</tr>
<tr>
<td>All CVD Events</td>
<td>14% decrease</td>
<td>-67</td>
</tr>
<tr>
<td>Myocardial Infarction</td>
<td>32% decrease</td>
<td>-87</td>
</tr>
<tr>
<td>All Strokes</td>
<td>No Effect</td>
<td></td>
</tr>
<tr>
<td>Ischemic Stroke</td>
<td>No Effect</td>
<td></td>
</tr>
<tr>
<td>Hemorrhagic Stroke</td>
<td>69% increase</td>
<td>11</td>
</tr>
<tr>
<td>Major Bleeding</td>
<td>72% increase</td>
<td>34</td>
</tr>
</tbody>
</table>

A negative number indicates a reduction in expected events; a positive number indicates an increase in expected events.

= significant benefit

= significant harm

## Aspirin Increases Risk of GI Bleeding

- Likelihood of GI bleeding increases with age in both men and women.
- Likelihood of GI bleeding increases in patients on anticoagulants, NSAIDs or those with history of GI ulcers.
- Age and gender-related increases in bleeding (in table to the right) are incorporated into current USPSTF guidelines.

### Risk of Serious Upper GI Complications over 10 Years

<table>
<thead>
<tr>
<th>Age</th>
<th>Men</th>
<th>Women</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;60 years</td>
<td>8/1,000</td>
<td>4/1,000</td>
</tr>
<tr>
<td>60-69 years</td>
<td>24/1,000</td>
<td>12/1,000</td>
</tr>
<tr>
<td>70-79 years</td>
<td>36/1,000</td>
<td>18/1,000</td>
</tr>
</tbody>
</table>
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What’s new: aspirin benefits beyond cardiovascular disease prevention

Aspirin recommendations should not be based solely on cardiovascular disease prevention. Although guidelines do not yet factor in cancer benefits, your discussions with patients about aspirin should include benefits in cancer prevention.

Aspirin prevents cancer3-5

- Evidence strongly suggests aspirin prevents colorectal cancer, lymphoma and other cancer-related deaths, especially when aspirin is taken for 5 or more years.
- Benefits are independent of age, sex and smoking status.
  - Pooled analysis of 20,000 patients showed 24% reduction in the 20-year risk of colorectal cancer.
- Studies show a trend toward a reduced risk of female cancers (e.g., ovarian, cervical and breast cancers).
- Researchers speculate that aspirin inhibits cancer growth by inhibiting COX-2, an enzyme involved in inflammation.

Aspirin may prevent cognitive decline in women10

- Older women at higher risk of cardiovascular disease may experience reduced/slower declines in cognitive function by taking daily aspirin.
  - Majority of women had a high risk of cardiovascular disease, based on their risk factors and age.
  - Of the 489 women available at the end of the monitoring period, declines in cognition were slowest in those who took aspirin for 5 years.

REFERENCES