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## ARTICLE

### A Prospective Study of Aspirin Use and the Risk for Colorectal Adenoma

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**Background:** Randomized, double-blind, placebo-controlled trials have established that regular aspirin use reduces the risk for recurrent colorectal adenoma. However, the effect of dose and duration of use, particularly in an average-risk population, is not well understood.

**Objective:** To examine the influence of dose and duration of aspirin use in the primary prevention of colorectal adenoma.

**Design:** Prospective cohort study.

**Setting:** Nurses' Health Study.

**Participants:** 27 077 women, 34 to 77 years of age, without a history of adenoma, cancer, inflammatory bowel disease, or familial polyposis, who underwent lower endoscopy between 1980 and 1998.

**Measurements:** 1368 cases of confirmed distal colorectal adenoma were diagnosed between 1980 and 1998. Self-reported data on aspirin use were collected from biennial questionnaires.

**Results:** After other risk factors for adenoma were adjusted, women who regularly used aspirin ( $\geq 2$  standard aspirin tablets/wk) had a multivariate relative risk for adenoma of 0.75 (95% CI, 0.66 to 0.84) compared with nonregular users. Compared with women who denied any aspirin use, the multivariate relative risks for adenoma were 0.80 (CI, 0.70 to 0.93) for women who used 0.5 to 1.5 standard tablets per week, 0.74 (CI, 0.62 to 0.88) for those who used 2 to 5 tablets per week, 0.72 (CI, 0.61 to 0.85) for those who used 6 to 14 tablets per week, and 0.49 (CI, 0.36 to 0.65) for those who used more than 14 tablets per week ( $P < 0.001$  for trend). Similar dose–response relationships were found among regular short-term users ( $\leq 5$  years;  $P < 0.001$ ) and long-term users ( $> 5$  years;  $P < 0.001$ ). In contrast, after adjustments were made for dose, increasing duration of aspirin use did not confer greater risk reduction ( $P > 0.2$ ).

**Conclusions:** Regular, short-term use of aspirin is inversely associated with risk for colorectal adenoma. However, the greatest protective effect is evident at substantially higher doses ( $> 14$  tablets/wk) than those recommended for the prevention of cardiovascular disease. Before aspirin can be recommended for chemoprevention in the general adult population, these results suggest the need for a more thorough evaluation of the risks and benefits of routine aspirin use at doses not previously considered.

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## Editors' Notes

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#### Context

- We do not know optimal doses and duration of aspirin use for preventing colorectal adenoma.

#### Contribution

- This large cohort study of female nurses found that dose but not duration of use was independently associated with adenoma risk. Compared with women who did not report aspirin use, women who reported taking about 1 standard aspirin tablet weekly and more than 14 tablets weekly had reduced relative risks of 0.80 (95% CI, 0.70 to 0.93) and 0.49 (CI, 0.36 to 0.65).

#### Implications

- Higher aspirin doses are associated with lower colorectal adenoma risks.

#### Cautions

- Higher aspirin doses increase risks for adverse effects, such as bleeding. Lower doses reduce heart disease risk.

—The Editors

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