Dear Alice,

I've heard that aspirin is a miracle drug with many benefits not yet fully understood. Is this true? If so, can aspirin substitutes provide the same benefits?

—Tylsalicilic

Answer

Dear Tylsalicilic,

As newly-reported benefits of aspirin circulate through the media-sphere, it can be a challenge to keep all the facts straight (and not get a headache in the process!). Aspirin, or acetylsalicylic acid, is one type in the class of substances called non-steroidal anti-inflammatory drugs (NSAIDs). Some studies do suggest that taking aspirin regularly can have health benefits for some people — but like any medication, there are also serious risks to consider. As you already suggested, the research on the benefits of regular aspirin use is still inconclusive, and it might be some time before researchers can really make a call on the long-term health impacts of this aspirin or other NSAIDS. Now, onto more about aspirin!

For general use, aspirin can be taken by many folks for a variety of reasons, including to reduce pain, fever, and inflammation. However, aspirin is only recommended in situations when the benefits truly outweigh the potential side effects. For example, regular aspirin use can cause an increased risk of potentially fatal bleeding-related conditions, including hemorrhagic stroke (due to the rupturing of weakened blood vessels in the brain) and gastrointestinal (GI) bleeding. These risks increase with age (especially among the 70 and up age group), or for those who have a history of GI ulcers, liver or kidney disease, uncontrolled high blood pressure, or other bleeding disorders. Additionally, aspirin may exacerbate symptoms for people with inflammatory bowel disease (IBD). Because of these risks, only a health care provider can safely recommend a regular aspirin regimen.
So while aspirin isn’t exactly a "miracle" panacea with no risks, some promising research does indicate that the drug’s anti-inflammatory and anti-clotting (blood-thinning) qualities could be beneficial for several health conditions, including:

- **Heart attack:** Aspirin has been found to work against the aggregation of platelets in the blood, which can help to prevent blood clots and potentially reduce the risk of a heart attack. Among those who’ve previously experienced a heart attack, an aspirin regimen has been shown to lower the risk of a second event. There is also some evidence that aspirin can reduce the risk of a first heart attack for people who have or may be at high-risk for cardiovascular disease. Finally, aspirin may decrease the risk of death when taken immediately after the onset of a heart attack. Though ibuprofen and naproxen also have similar blood-thinning effects as aspirin, they have not been found to reduce these cardiovascular risks.

- **Stroke:** Aspirin’s blood-thinning action may help to prevent ischemic strokes, which are caused by blood clots that block blood vessels in the brain.

- **Cancer:** While it’s still too early to make any definite conclusions, some of the most exciting research has been on aspirin’s role in cancer prevention. There is very strong evidence supporting long-term aspirin therapy in reducing the risk of cancer and cancer-related deaths from colorectal cancer, as well as some newly emerging evidence in support of aspirin for prostate, stomach, breast, ovarian, endometrial, and esophageal cancers. It’s not well-understood how aspirin works to reduce cancer risk, but one hypothesis is that its anti-inflammatory properties may decrease the formation of tumors. Keep in mind that these studies define long-term use as a minimum of three to five years of continual use — this means that long-term clinical studies are still in the works to fully examine the costs and benefits of aspirin as a cancer prophylaxis. It’ll be good to stay tuned for more findings on this in the future!

You might be thinking "wow, it’s time to start taking aspirin" — but hold that thought. There are currently no recommendations regarding aspirin use to prevent heart attack, stroke, or cancer among people who are generally healthy. The United States Preventative Services Task Force (USPSTF) currently recommends aspirin therapy for people 50 to 69 years of age who have a high risk of cardiovascular disease and a very low risk of bleeding complications. There is little evidence that the potential benefits outweigh the risks among adults younger than 50 or older than 70 years of age. Additionally, there’s still no formal consensus yet among the scientific community regarding regular aspirin therapy for preventing first-time heart attack, ischemic stroke, or colorectal cancer. Long story short, before taking aspirin or any over-the-counter NSAIDs on a long-term basis, a discussion with your health care provider is recommended. They can explain and help you understand potential side effects, determine an appropriate and safe dosage if long-term use is recommended, as well as assess possible interactions with any other medications or supplements you currently take.

Lastly, if you or someone you know has general concerns about heart disease, stroke, or cancer, keep in mind that the best preventative care is a healthy lifestyle that starts with eating a nutritious and balanced diet, kicking any smoking habits, effective stress management, staying up-to-date on health screenings, and regular physical activity. Consider making an appointment with your health care provider or a registered dietician to work out a plan that takes into
consideration your personal health history and specific needs. For even more information on daily aspirin use, the U.S Food and Drug Administration (FDA) [3], American Heart Association [4], and the American Cancer Society [5] are all great resources.

Alice!
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