Wonder Drug

For everything from heart disease to cancer, aspirin may be just what the doctor ordered.

> Aspirin soothes headaches, eases pains and cools fever. It calms cramps and can—for certain patients—reduce the risk of heart attack and stroke. New research suggests aspirin can protect against dementia and cancer, not to mention perk up flowers and revive batteries. No wonder they call it a wonder drug.

Aspirin has been around a long time. Historians cite 3,000-year-old prescriptions etched in stone that call for willow bark. The ancient Greek physician Hippocrates noted that willow reduced fevers and labor pains. He wasn’t the only one. Native Americans relied on the bark to treat pain, as did later arrivals Lewis and Clark.

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U.S.). The drug was originally sold by pharmacies; customers shook the powder from paper bags. A year later the company came up with an easier way to dispense the medication: the tablet.

Soon aspirin, with its new over-the-counter availability, was as ubiquitous as hangovers on New Year’s Day. It was valued for its ability to reduce pain, fever and inflammation. And, after a California doctor noted that his aspirin-taking patients had fewer heart attacks, it was discovered that aspirin “thins” blood by interfering with its clotting action. Aspirin became the standard of care for (in specific instances) reducing the risk of heart attack and stroke.

Aspirin earned a spot on the World Health Organization’s list of “essential” drugs. It accompanied astronauts to the moon. Bayer reports global sales of 10 billion to 15 billion tablets a year. Some estimates have the world taking 80 billion tablets a year.

Best of all, it works. But it wasn’t until 1971 that British pharmacologist John R. Vane figured out why: Aspirin inhibits the synthesis of prostaglandins.

Much like hormones, prostaglandins are chemical messengers. Their jobs include sending pain signals and promoting inflammation and fever. Tamp down prostaglandins and you tamp down pain, swelling and fever.

For this insight, Vane was eventually bestowed both knighthood and (along with Bengt I. Samuelsson and Sune K. Bergstrom, in 1982) a Nobel Prize. As Vane put it: “No other drug in the world has had such a fascinating and record-breaking history—a development that has not yet come to an end.”

Indeed. Recent research pits the little white pill against the big menace cancer … with encouraging results. A series of studies published since 2012 in the British medical journal The Lancet compared patients who took aspirin daily against those who didn’t. Peter M. Rothwell, a professor of clinical neurology at the University of Oxford, found that the aspirin-taking group had fewer cancers, less spreading of cancer and fewer cancer deaths. The effect was particularly striking in reducing esophageal and colorectal cancer.

Last year, a study released by Brigham and Women’s Hospital and Harvard Medical School found that healthy women who took aspirin every other day were less likely to develop colorectal cancer. Other studies have found reductions in lung, breast, neck and skin cancers.
The mechanism is not yet fully understood, but some researchers are focusing on “somatic genome abnormalities”—damage to cancer-afflicted DNA. Aspirin is believed to slow down this damage, slowing down the disease. Which doesn’t mean we should all pop the pill.

“The important thing to note is that while [the research is] promising, it’s still very early on,” says Brent Reed, assistant professor of pharmacy practice and science at the University of Maryland School of Pharmacy. “It’s not something where patients who might have those conditions should just start taking aspirin. It’s a discussion they should have with their health care provider.”

Aspirin can have dangerous side effects, including bleeding in the stomach and brain. And in children and teenagers, aspirin is no longer recommended for treating flu-like symptoms because it has been linked to a rare but potentially fatal condition called Reye’s syndrome.

“There are very real risks of taking aspirin,” says Reed. “For patients for whom a benefit exists, it comes down to a risk versus benefit decision.”

**Generally speaking, aspirin is recommended in adults for:**
- Minor aches and pains
- Headache
- Fever

**According to the Mayo Clinic, aspirin is often recommended to:**
- Patients who have had a heart attack or stroke
- Patients who have had a stent placed in a coronary artery
- Certain patients at high risk of heart attack
- Men over 50 and women over 60 with diabetes

**Aspirin is generally contraindicated for:**
- Patients with an allergy to aspirin
- Children (due to the risk of Reye’s syndrome)
- Patients at risk for bleeding

Maybe the doctor’s old adage needs an update. Forget: “Take two aspirin and call me in the morning.” Try: “Call me first; the answer may well be aspirin.”

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