

# The Many Forgotten Health Benefits of Aspirin

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## STORY AT-A-GLANCE

- › Aspirin offers benefits beyond heart health, including cancer prevention, improved pregnancy outcomes during influenza infection and treatment for fatty liver disease and pulmonary fibrosis
- › Long-term low-dose aspirin use (over 10 years) may reduce the risk of dementia, particularly in people with pre-existing coronary heart disease
- › Aspirin can enhance glucose utilization, reduce fatty acid release, lower cortisol levels and increase metabolic rate, potentially aiding in weight loss and hormone balance
- › Studies suggest aspirin may improve survival rates in intensive care units, slow the progression of abdominal aortic aneurysms and reduce the risk of developing Type 2 diabetes
- › When considering aspirin use, opt for immediate-release, uncoated versions. The suggested dosage is dependent on your circumstances 82 mg to 325 mg tablet daily with your largest meal

For years, you've probably heard that a daily low-dose aspirin can help prevent heart attacks and strokes. Now, suddenly, health authorities are backpedaling on this advice.<sup>1</sup>

Why the change? They claim it's about bleeding risks, but there's more to the story. Look at the timing – this shift comes as newer, far more expensive blood thinners flood the market. These drugs can cost up to \$550 a month,<sup>2</sup> while aspirin sets you back just \$1.50.<sup>3</sup>

It's a pattern we've seen before with drugs like [ivermectin](#). Safe, effective and cheap medicines get pushed aside to make way for pricier alternatives. The pharmaceutical industry has a long history of this, dating back to when nonsteroidal anti-inflammatory drugs (NSAIDs) were introduced in the 1970s.

They're telling you to avoid aspirin, but are they telling you the whole truth? As always, I encourage you to look beyond the headlines and consider who benefits from these changing guidelines. Your health — and your wallet — may depend on it.

For decades, aspirin has been a cornerstone in the prevention of cardiovascular disease (CVD). A comprehensive review of 13 primary prevention trials recently revealed that low-dose aspirin is associated with small but statistically significant reductions in major CVD events, such as heart attack and stroke.<sup>4</sup>

The absolute risk reduction can be up to 2.5%, which means that for every 1,000 people taking aspirin, up to 25 fewer may experience a major CVD event. But the truth is, aspirin offers numerous health advantages beyond heart health that are rarely talked about. Learning about these benefits can help you take control of your health.

## **Aspirin's Role in Cancer Prevention**

Recent studies have shed light on aspirin's potential to prevent colorectal cancer (CRC) and other types of cancer. Taking at least 75 milligrams (mg) of aspirin daily for several years has been shown to reduce the long-term incidence and death from CRC,<sup>5</sup> with the greatest benefit seen for proximal colon cancers, which are malignancies that occur in the first and middle sections of the colon, also known as the right side of the colon.

In fact, in women, aspirin use for over 20 years was associated with a 35% reduction in CRC incidence.<sup>6</sup> The effect appears to be dose-dependent, with longer duration of use linked to greater benefits. Aspirin may also improve survival rates after a CRC diagnosis, with regular users showing reductions in CRC mortality of 29% and overall mortality of 21%.<sup>7</sup>

Interestingly, the benefits of aspirin use in CRC may extend to other cancer types as well. An analysis of eight trials found that the 20-year risk of any cancer death was reduced by 20%, and gastrointestinal cancer deaths by 35%. These findings suggest that low-dose aspirin use over multiple years could be a valuable tool in your cancer prevention strategy.

Research has also uncovered a role for aspirin in treating certain types of hepatocellular carcinoma (HCC), or liver cancer. A case study revealed that aspirin effectively controlled disease progression in a patient with HCC caused by adenomatous polyposis coli (APC) mutations.<sup>8</sup> These mutations, which activate the Wnt pathway, were identified as the primary driver of the patient's cancer.

By administering high-dose aspirin (300 mg daily), doctors achieved disease control for nearly five years. The effectiveness of aspirin in this HCC case is linked to its ability to inhibit the Wnt pathway, which plays a crucial role in cancer development. In patients with APC mutations, the Wnt pathway becomes overactivated, promoting tumor growth.

Aspirin works by activating glycogen synthase kinase 3 beta (GSK3 $\beta$ ), which in turn increases the phosphorylation and degradation of  $\beta$ -catenin, a key protein in the Wnt pathway.

This mechanism effectively counteracts the effects of the APC mutation. Additionally, aspirin's action as a cyclooxygenase 2 (COX2) inhibitor may contribute to its anticancer effects. This case demonstrates how a common, inexpensive drug like aspirin could be repurposed for targeted cancer therapy based on specific genetic profiles.

## **Aspirin Improves Pregnancy Outcomes During Influenza Infection**

Low-dose aspirin may also offer benefits during influenza infection in pregnancy.<sup>9</sup> A study using a mouse model found that aspirin treatment significantly improved vascular function in pregnant mice infected with influenza A virus.<sup>10</sup> The infected mice showed

impaired blood vessel relaxation, but aspirin treatment restored normal vascular function.

This is important because vascular dysfunction during pregnancy can lead to complications like preeclampsia and restricted fetal growth. The study also found that aspirin reduced inflammation in the blood vessels and decreased viral spread from the lungs to other tissues. Most notably, aspirin treatment improved outcomes for the offspring, including better survival rates and higher birth weights.

These findings suggest that the vascular protective effects of aspirin may help support a healthier pregnancy even in the face of influenza infection. The dosage used in the study was comparable to the low doses of aspirin already safely prescribed to some high-risk pregnant women to prevent preeclampsia. This suggests the treatment could be readily translatable to clinical use. However, as Georgi Dinkov notes:<sup>11</sup>

*"The even better news is that these findings do not apply only to flu and/or only to pregnancy. **COVID-19, as well as most other viral infections**, cause similar systemic state of inflammation, which affects primarily the vascular system. As such, the study ... suggests that aspirin may be a viable prophylactic and treatment intervention for all other viral conditions as well."*

## **Aspirin Therapy Shows Promise for Fatty Liver Disease**

A daily aspirin regimen may offer more benefits than you realize. A study presented at the 2023 meeting of the American Association for the Study of Liver Diseases<sup>12</sup> revealed that low-dose aspirin could be an effective treatment for metabolic dysfunction-associated steatotic liver disease (MASLD), a condition previously known as nonalcoholic fatty liver disease.

The terminology shift aims to more accurately reflect the underlying metabolic dysfunction associated with the condition, emphasizing the metabolic risk factors and pathophysiology rather than just the absence of alcohol consumption. In a

groundbreaking trial, researchers found that taking 81mg of aspirin daily led to significant improvements in liver health for patients with MASLD.<sup>13</sup>

Over a six-month period, participants who took aspirin experienced a substantial reduction in liver fat content compared to those who received a placebo. This decrease in liver fat was accompanied by improvements in other markers of liver health, including inflammation and fibrosis.

The study's findings are particularly exciting because they demonstrate aspirin's ability to address multiple aspects of liver health. Not only did aspirin reduce the amount of fat in the liver, but it also showed promise in tackling inflammation and fibrosis – two key factors in the progression of liver disease.

Participants who took aspirin saw a 17.3% decrease in intrahepatic lipid content – the amount of fat stored within liver cells – while those in the placebo group experienced a 30.3% increase. This striking difference suggests that aspirin could potentially halt or even reverse the accumulation of fat in the liver, a hallmark of MASLD.

Additionally, the aspirin group showed improvements in liver enzyme levels and other markers of liver health, indicating a broader positive impact on liver function.

## **Aspirin Improves Mortality Rates in the ICU**

While the previous study focused on aspirin's benefits for fatty liver disease, new research suggests its potential extends to critical care settings. A large-scale study involving 146,191 intensive care unit (ICU) patients found that aspirin use during ICU stays was associated with a significant reduction in 28-day mortality rates.<sup>14</sup>

This effect was particularly notable in patients with systemic inflammatory response syndrome (SIRS) symptoms but without sepsis. The findings add another layer of understanding of aspirin's many health benefits. Not only might it help protect your liver from fat accumulation and inflammation, but it could also improve your chances of survival if you ever find yourself in intensive care.

# **Aspirin's Role in Preventing Diabetes and Abdominal Aortic Aneurysms**

Aspirin also has a protective effect against Type 2 diabetes. An analysis of the ASPREE trial, which involved 16,209 adults aged 65 and older, revealed that those taking low-dose aspirin (100 mg daily) had a 15% lower risk of developing diabetes compared to those on placebo.<sup>15</sup> This finding adds a new dimension to the potential benefits of aspirin therapy, especially for older adults.

The study also found that aspirin use was associated with a slower increase in fasting plasma glucose levels over time, revealing that aspirin might help maintain better blood sugar control, even in individuals who don't develop full-blown diabetes.

A large cohort study involving 3,435 patients also revealed that aspirin use is associated with slower progression of abdominal aortic aneurysms (AAAs), particularly in men and nonsmokers.<sup>16</sup> This reveals even more about aspirin's potential benefits, extending beyond heart health and diabetes prevention.

AAAs are a serious vascular condition that can lead to life-threatening ruptures if left unchecked. The study found that patients taking aspirin had a 36% lower odds of rapid aneurysm progression compared to those not taking aspirin. While aspirin didn't significantly impact long-term mortality or major bleeding risks, its potential to slow AAA growth could be a game-changer in managing this condition.

## **Aspirin's Impressive Anti-Fibrotic Effects**

Aspirin could also be useful as a treatment for pulmonary fibrosis,<sup>17</sup> a lung disease that occurs when lung tissue becomes damaged and scarred. This thickening and stiffening of the tissue make it difficult for your lungs to work properly, leading to a decline in lung function.

Aspirin may help combat lung scarring. A study found that aspirin significantly inhibited the differentiation and migration of lung fibroblasts, which are key drivers of fibrosis, or

scarring.<sup>18</sup> When researchers treated fibrotic lung cells with aspirin, it markedly decreased the expression of proteins associated with fibrosis like collagen, fibronectin, and alpha-smooth muscle actin.

In a mouse model of pulmonary fibrosis, aspirin treatment reduced collagen deposition and lung fibrosis compared to untreated mice. These findings suggest aspirin may help prevent the excessive scarring and tissue remodeling seen in pulmonary fibrosis. Given aspirin's wide availability, low cost and established safety profile, it presents an intriguing option for pulmonary fibrosis treatment.

The study also sheds light on how aspirin might combat pulmonary fibrosis – by enhancing a cellular process called autophagy. Autophagy is your cells' way of recycling damaged components and maintaining homeostasis. Interestingly, insufficient autophagy has been observed in lung tissue from patients with idiopathic pulmonary fibrosis.

The research found that aspirin treatment increased markers of autophagy in fibrotic lung cells and tissues. Using electron microscopy, the researchers also observed more autophagosomes (structures involved in autophagy) in aspirin-treated samples. When autophagy was blocked using inhibitors, it reversed aspirin's anti-fibrotic effects. This suggests that aspirin may work by activating autophagy to clear out damaged proteins and prevent the build-up of scar tissue.

By promoting this natural cellular cleaning process, aspirin could potentially slow down or even reverse the progression of pulmonary fibrosis, adding to aspirin's diverse health benefits and opening up new possibilities for its therapeutic use.

## **Long-Term Aspirin Use Offers Cognitive Benefits**

While previous research on aspirin's cognitive benefits has been mixed, research published in *Alzheimer's Research & Therapy* highlights the importance of long-term use.<sup>19</sup> The analysis found that taking low-dose aspirin for more than 10 years was critical for detecting a protective effect against dementia.

This suggests that starting aspirin use in middle age and continuing it for at least a decade may offer cognitive benefits. Aspirin's protective effects for dementia were mainly seen in people with pre-existing coronary heart disease (CHD).

Among CHD patients, low-dose aspirin use was associated with a 31% reduced risk of Alzheimer's disease, 69% reduced risk of vascular dementia and 54% reduced risk of all-cause dementia. If you have CHD, it's therefore possible that low-dose aspirin could provide dual benefits for your cardiovascular and cognitive health.

## **Aspirin's Metabolic Magic: From Fat Burning to Hormone Balance**

Aspirin also enhances your body's use of glucose for energy while reducing the release of fatty acids from fat cells, particularly **linoleic acid** (LA), an omega-6 fat that's a significant contributor to chronic disease.

This is crucial because most Americans have excess LA in their tissues, and it takes seven years of a low-LA diet to reduce it to healthy levels. Therefore, you want to avoid increasing LA release from fat stores into your body. It's preferable to release LA gradually, allowing your liver to process it. Being water-soluble, you can eliminate it through urine without it being converted into inflammatory prostaglandins.

Notably, aspirin also lowers your baseline cortisol – indirectly by reducing inflammation, and directly by inhibiting an enzyme that converts inactive cortisone to active cortisol. Aspirin decreases stress-induced aldosterone production, potentially helping to lower blood pressure.

It increases your carbon dioxide and progesterone levels while inhibiting a major inflammatory pathway, NF kappa-B, which can help your body naturally boost the production of two important hormones: testosterone and progesterone.

Aspirin also uncouples mitochondria. This uncoupling of mitochondrial oxidative metabolism from ATP production can help increase your metabolic rate and aid in weight loss. Dinitrophenol (DNP), like aspirin, uncouples mitochondrial metabolism and



causes significant weight loss. However, DNP's effective dose is dangerously close to its toxic dose, making it too risky for clinical use and no longer available in the U.S.

## **Aspirin Purchasing Guidelines**

If you decide to use aspirin, avoid coated extended-release versions due to their additives. Opt for immediate-release aspirin, which can be found on Amazon. Check the inactive ingredients list carefully – corn starch should be the only one listed. After thorough research, I found a product meeting these criteria. The suggested dosage is dependent on your circumstances 82 mg to 325 mg tablet daily with your largest meal.

I'm convinced of aspirin's preventive value and now take 111 mg daily using [Health Natura's USP grade 60 gram aspirin powder](#) for under \$20. However, I use a 99% pure USP aspirin version that's not in tablet form. I find its prometabolic, antilipolytic, anti-inflammatory, anticortisol, and anti-estrogen effects appealing, and its safety is well-established.

If you're sensitive to aspirin, consider using a salicylic acid or willow bark supplement instead. When you take aspirin, your body metabolizes the acetylsalicylic acid into salicylic acid, which is responsible for aspirin's anti-inflammatory, pain-relieving and antithrombotic effects. This compound is naturally found in willow bark.

Overall, aspirin is a versatile and underappreciated medication with a wide array of health benefits beyond its well-known cardiovascular applications. From cancer prevention and improved pregnancy outcomes to potential treatments for liver disease and cognitive decline, aspirin's diverse effects warrant further research and consideration.

Its metabolic impacts and potential to influence hormone balance add another layer to its therapeutic potential. The breadth of aspirin's potential benefits suggests that this common, inexpensive medication may have more to offer than health authorities are acknowledging in supporting overall health and preventing various chronic conditions.

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