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Erythritol and Xylitol Raise Blood Clot and Stroke Risk

Analysis by Dr. Joseph Mercola | July 03, 2026

STORY AT-A-GLANCE

- Research shows erythritol, a sugar substitute, weakens protective brain cell functions, increases oxidative stress, and compromises the blood-brain barrier integrity
- Erythritol consumption causes rapid platelet clumping and accelerated blood clot formation, dramatically increasing stroke and heart attack risks
- Like erythritol, xylitol increases platelet reactivity and clotting risks, with effects persisting for hours after consumption
- People diagnosed with diabetes, obesity, hypertension, or existing cardiovascular disease experience the most pronounced increases in clotting dangers
- Replace artificial sweeteners with whole fruits, root vegetables, and real carbs while avoiding omega-6 oils for better overall health

You've likely heard that sugar substitutes like erythritol are "healthy" sweetening alternatives, but research clearly shows otherwise. Emerging evidence shows that these ingredients compromise your cerebral vascular system, increasing your vulnerability to blood clots, stroke, and neurological damage.

Unfortunately, erythritol isn't the only sugar alcohol implicated in serious health risks. Another similar sugar substitute, xylitol, has also been linked to increased cardiovascular events, including heart attacks and strokes.

Erythritol Damages Your Brain's Blood Vessels Directly

In a study published in the Journal of Applied Physiology, researchers investigated what happens to your cardiovascular health when exposed to erythritol. Specifically, they used human brain microvascular endothelial cells, which line and protect your smallest brain blood vessels, to see if erythritol affected their ability to maintain a healthy blood-brain barrier.[1]

To perform the tests, the team exposed cultured endothelial cells to various concentrations of erythritol to mimic conditions similar to consuming erythritol-containing products. They found clear and consistent evidence of damage to these critical cells, even at low concentrations that match typical human consumption.

- **Erythritol affects your brain blood vessels right away —** After just a few hours of exposure, erythritol significantly weakened the cells' protective functions and increased markers of oxidative stress, meaning the cells started becoming damaged.

- **There was a substantial rise in reactive oxygen species (ROS) —** These refer to unstable molecules that aggressively interact with and damage healthy cells and tissues. Normally, your body carefully manages ROS to prevent harm, but erythritol exposure has significantly disrupted this balance. Higher ROS levels directly translated to increased cell injury and inflammation, ultimately affecting your blood-brain barrier:[2]

  > *"Uncontrolled increase in oxidative stress in cerebral endothelial cells can lead to disruption in the blood-brain barrier integrity, resulting in increased vascular permeability promoting tissue damage and death."*

- **Erythritol affects endothelial cells' nitric oxide (NO) balance —** NO helps maintain vascular health by relaxing blood vessels and supporting proper blood flow. Yet, after erythritol treatment, the endothelial cells showed reduced production, coupled with increased markers indicating endothelial dysfunction — a condition that often precedes serious cardiovascular issues like strokes.

- **Vascular blood flow is affected —** According to the researchers, your endothelial cells release tissue-type plasminogen activator (t-PA) to maintain vascular flow, and erythritol affects this important function:[3]

> *"In the present study, erythritol impaired t-PA release in response to thrombin, indicative of reduced endothelial fibrinolytic capacity. Moreover, impaired capacity of brain microvascular endothelial cells to release t-PA is also associated with weakened blood-brain barrier integrity. Thus, erythritol-induced impairment in t-PA release may extend beyond compromised thrombolytic potential and contribute to greater cerebrovascular dysfunction."*

Erythritol Makes Your Blood Sticky

In an analysis published in Arteriosclerosis, Thrombosis, and Vascular Biology, researchers linked erythritol consumption to increased stickiness of your blood, drastically elevating your risk of forming harmful clots. Digging deeper into the methodology, the team aimed to measure how erythritol affects platelet function — the process responsible for your blood's ability to clot — compared to regular sugar (glucose).[4]

Healthy participants were asked to drink a beverage containing either erythritol or glucose in separate sessions, allowing researchers to observe real-time effects on blood clotting. Immediately following consumption, their platelet activity was tracked through blood tests and specialized laboratory measurements.

- **Platelet reactivity surged significantly within minutes —** Erythritol made the platelets rapidly prone to clumping together. This accelerates clotting, setting the stage for serious health events such as strokes or heart attacks, especially in individuals already facing cardiovascular risks. In fact, the researchers noted that erythritol caused a ">1000-fold increase in erythritol plasma concentration."[5]

In laboratory tests designed to mimic clot formation in your blood vessels, clots not only formed faster but were also structurally more robust, increasing the likelihood of dangerous blockages occurring in crucial arteries supplying your heart or brain.

- **Erythritol vs. glucose —** Glucose did not trigger similar platelet activation or clotting changes. The stark contrast highlights that erythritol uniquely and acutely endangers your vascular health, whereas glucose remains safer to use in this context.

- **Thrombin generation was accelerated —** This enzyme essentially acts as a catalyst, rapidly converting fibrinogen — a soluble protein circulating in your blood — into fibrin, the insoluble threads that physically form the clot.

  Increased thrombin generation means more rapid and intense clot formation, creating the dangerous possibility of vessel blockage and impaired blood flow to critical organs.

- **Erythritol amplified the release of dense granules —** These are tiny packets of substances that help platelets stick together and form stable clots. When erythritol exposure triggers platelets, these granules quickly discharge their contents, dramatically boosting platelet aggregation and clot robustness. This intensifies the clot formation process even further, magnifying the threat to your cardiovascular system and raising your risk of stroke or heart attack.

Another Alcohol Sugar Is Linked to Heart Problems

A study published in the European Heart Journal explored the cardiovascular risks associated with consuming xylitol, another popular sugar substitute that is categorized as "Generally Recognized as Safe" (GRAS).[6] Researchers tested how regular consumption of xylitol affects blood clotting and cardiovascular health, specifically by assessing the sweetener's impact on platelet activity and risk of forming blood clots.[7]

By comparing participants who regularly consumed xylitol-containing foods with those who did not, the researchers identified significant increases in cardiovascular risks among the xylitol users. Specifically, individuals consuming xylitol regularly showed markedly elevated platelet reactivity, meaning their blood became noticeably stickier similar to erythritol.

- **There was a measurable rise in cardiovascular incidents —** This includes heart attacks and strokes, among individuals with high xylitol consumption. According to the data, these health events correlated strongly with elevated levels of xylitol detected in participants' blood. In other words, the more xylitol present in your bloodstream, the higher your chances of experiencing an adverse cardiovascular event.

- **Even moderate, frequent consumption of xylitol significantly heightened platelet activity —** Tests conducted on blood samples demonstrated that xylitol directly triggered an increase in platelet aggregation, ultimately forming clots. Moreover, the researchers emphasized that it happened to all participants:[8]

  > *"[C]onsumption of a xylitol-sweetened drink markedly raised plasma levels and enhanced multiple functional measures of platelet responsiveness in all subjects."*

- **The effects of xylitol linger —** The study highlighted a troubling time-related finding — platelet activation occurred quickly after xylitol consumption and persisted for several hours. Participants who consumed even modest amounts of xylitol-containing foods experienced a rapid increase in platelet aggregation within minutes.

- **Groups who are vulnerable to xylitol's harmful effects —** The researchers observed that individuals already predisposed to cardiovascular disease — such as those with insulin resistance, diabetes, obesity, or hypertension — experienced the most

pronounced increase in clotting risk after consuming xylitol. Simply put, if you're already managing a heart-related condition, consuming xylitol will significantly raise your risk of a heart attack or stroke.

- **Platelet activity also surges —** When comparing xylitol's effects on platelets with other sugar alcohols, the researchers found similar but distinct patterns. Like erythritol, xylitol increased clotting risks and even increased platelet activity to concerning levels:[9]

  > *"[W]e found xylitol, like erythritol, is readily absorbed following oral ingestion by humans, with plasma levels increasing over 1000-fold in the post-prandial setting."*

- **Xylitol causes changes in platelet calcium signaling pathways —** Under normal conditions, calcium within platelets is tightly controlled. However, exposure to xylitol disrupted these delicate calcium balances, causing platelets to release chemicals rapidly that stimulate clumping and clot formation. This mechanism closely mirrors what researchers observed with erythritol, underscoring a shared risk profile among sugar alcohols.

Overall, these detailed findings offer strong evidence that xylitol — despite its innocent marketing as a healthier sugar alternative — poses genuine and significant cardiovascular dangers.

Avoid Artificial Sweeteners and Consume Real Carbohydrates

If you're concerned about protecting yourself from blood clots, strokes, or heart disease, the first step is to address your diet by eliminating harmful sugar substitutes like erythritol and xylitol. As noted by the published research, these sweeteners make your blood dangerously sticky and damage the blood vessels that safeguard your brain and heart. To help you get started, here are my recommendations:

1. **Cut artificial sweeteners completely —** Stop consuming erythritol, xylitol, and other products that contain sugar alcohols right away. Even if they're labeled "natural," these sweeteners increase clotting risks and cause harmful inflammation in your blood vessels. Check labels carefully, especially in products marketed as "sugar-free," and avoid items that contain these ingredients. In the same way, avoid products that use artificial sweeteners, such as **aspartame** and sucralose.

2. **Consider these other sugar substitutes —** If you get cravings for sweet food, consider making them at home using healthy alternatives. I recommend natural stevia (the plant itself), as well as Luo Han Guo. Pure dextrose, if it's derived from **clean cane sugar**, is a third alternative I recommend.

3. **Choose natural carbohydrates instead —** Your body thrives on real carbohydrates for energy. Fruit juices with pulp or whole fruits like oranges, apples, and berries are great choices. Root vegetables such as sweet potatoes also offer safe sources of carbohydrates that support your metabolic health without harmful additives.

   Aim for 200 to 250 grams of healthy carbohydrates daily to maintain stable insulin levels and improve overall metabolic health. White rice and ripe bananas are also good dietary sources of carbohydrates.

4. **Focus on healing your gut microbiome —** Gut health is deeply connected to your overall health, including your cardiovascular system. And, as noted in previous articles, artificial sweeteners **greatly affect your gut microbiome diversity**.

   A healthy gut helps maintain balanced inflammation and reduces your overall risk of clotting and cardiovascular problems. That said, I recommend you eat fermented foods regularly such as homemade yogurt, sauerkraut, and kimchi to reseed your gut with healthy bacteria.

5. **Lower your exposure to omega-6 fatty acids —** If you've been eating foods high in alcohol sugars, you're likely eating other foods that contain linoleic acid (LA), which I believe is one of the most pernicious toxins in the Western food supply.

High intake of LA from vegetable oils (like sunflower, soybean, and canola oils) severely damages your blood vessels and increases inflammation and clotting risk. Choose traditional, safer fats like raw butter from grass fed cows, tallow, or ghee to cook your food at home.

In addition, LA exists in the many foods you eat — even meat. I recommend you maintain your LA intake below 5 grams per day to protect your health. If you can keep it below 2 grams per day, that's even better. To help you track how much LA you're eating, I recommend signing up for the Pax health platform. It will feature the Seed Oil Sleuth tool, which calculates your LA intake down to a tenth of a gram.

Frequently Asked Questions (FAQs) About Alcohol Sugars

Q: What happens to my brain when I consume erythritol?

A: Erythritol damages the tiny blood vessels in your brain by weakening the blood-brain barrier. This allows harmful substances to leak into your brain tissue, triggering inflammation and increasing your risk of stroke and neurological damage. It also disrupts nitric oxide (NO) production, which is key for proper blood flow.

Q: How fast does erythritol affect my blood?

A: The effects are immediate. Within minutes of drinking something with erythritol, your blood becomes more sticky. This means your platelets — the cells that form clots — become highly reactive, making it easier for dangerous clots to form. These changes persist for hours, elevating your stroke and heart attack risk.

Q: Is glucose safer than erythritol or xylitol?

A: Yes. In the clinical studies, glucose did not trigger the same clotting or vascular damage that erythritol and xylitol did. In fact, researchers found that erythritol caused over a thousandfold spike in plasma levels after just one drink, something that did not happen with glucose. If you're going to use glucose, make sure it comes from pure cane sugar.

Q: Does xylitol cause the same issues as erythritol?

A: Yes. Xylitol increases platelet activity just like erythritol and raises the risk of cardiovascular events, including heart attacks and strokes. Research showed that even moderate use made blood stickier and that the clotting effects lingered for hours. People with insulin resistance, obesity, or high blood pressure are at even greater risk.

Q: What can I do to protect myself?

A: Cut sugar alcohol from your diet, especially products that have erythritol and xylitol. Instead, use real carbohydrates like whole fruits and root vegetables. Avoid vegetable oils as well, which worsen vascular inflammation, and aim for 200 to 250 grams of quality carbs daily.

Sources and References

- [1, 2, 3] J Appl Physiol (1985). 2025 Jun 1;138(6):1571-1577
- [4, 5] Arterioscler Thromb Vasc Biol. 2024 Sep;44(9):2136-2141
- [6] DZHK Newsroom, June 7, 2024
- [7, 8, 9] European Heart Journal, Volume 45, Issue 27, 14 July 2024, Pages 2439–2452