

# Common Blood Pressure Medication Linked to Worse Kidney Outcomes in Diabetic Patients

Analysis by [Dr. Joseph Mercola](#)

September 01, 2026

## STORY AT-A-GLANCE

- › A study of more than 31,000 adults with Type 2 diabetes found that a widely prescribed class of blood pressure medications was associated with a 33% higher risk of serious kidney complications, including substantial loss of kidney function, dialysis or transplantation
- › The increased kidney risk persisted even though all participants were already taking modern kidney-protective therapies that are considered standard treatment for diabetic kidney disease
- › Researchers believe these medications may increase pressure inside the kidneys' filtering units, exposing already damaged tissue to additional mechanical stress, which may accelerate kidney decline
- › High blood pressure not only raises the risk of heart disease but also damages the kidneys over time, making blood pressure control one of the most important strategies for preserving kidney function
- › Improving blood sugar control, restoring a healthier sodium-to-potassium balance, reducing chronic stress, optimizing vitamin D levels, and staying physically active may help lower blood pressure naturally and reduce strain on the kidneys

Diabetic kidney disease, characterized by gradual damage to the kidneys caused by persistently elevated blood sugar, often develops silently for years before obvious symptoms appear. Early warning signs include swelling in the feet and ankles, fatigue,

changes in urination, and rising blood pressure. Left unchecked, it can progress to kidney failure that requires dialysis or a transplant.

Because high blood pressure speeds that decline, controlling it is considered a cornerstone of treatment, which is what makes research presented at the European Renal Association Congress so unsettling.<sup>1</sup> Among adults with Type 2 diabetes who were already taking medications meant to preserve their kidneys, one widely prescribed class of blood pressure medication was linked to worse kidney outcomes rather than better ones.

That result defied what the researchers expected to find. These modern therapies were thought to protect the kidneys well enough to offset any downside of adding another blood pressure drug. Instead, the added risk held, even in patients receiving the very treatments designed to slow kidney decline.

The explanation appears to lie not in the bloodstream at large but inside the kidney's own filtering machinery, where a medication meant to ease pressure within blood vessels may do the opposite. Understanding how that happens reveals why a drug trusted to protect the circulation can behave so differently once blood reaches the kidney.

## **Common Blood Pressure Drugs Were Linked to a 33% Higher Risk of Kidney Decline**

The study investigated whether dihydropyridine calcium-channel blockers (DCCBs) — a group that includes amlodipine, the most commonly prescribed, along with nifedipine and felodipine — remained safe for people with [Type 2 diabetes](#) who were already receiving the newest kidney-protective treatments.<sup>2</sup>

Researchers analyzed data from 31,031 adults treated between 2016 and 2021. Every participant was already taking both renin-angiotensin system (RAS) inhibitors and sodium-glucose cotransporter-2 (SGLT2) inhibitors, which are considered standard

therapies for protecting kidney function in diabetic kidney disease. The researchers wanted to determine whether adding DCCBs influenced long-term kidney outcomes.

- **The study compared two large treatment groups** — Among the participants, 12,172 people (39.2%) were taking DCCBs while 18,859 people (60%) were receiving other blood pressure medications. Patients were followed for a median of roughly 3.5 years, giving researchers a substantial window to observe changes in kidney health.

For readers already managing diabetes, this makes the findings particularly relevant because DCCBs are commonly prescribed as a second-line treatment when blood pressure remains elevated despite other medications.

- **The difference in kidney outcomes was significant** — After adjusting for differences in age, health status, and other baseline factors, researchers found that DCCB use was associated with a 33% higher risk of major adverse kidney events (RR 1.33, 95% CI, 1.03-1.73) compared to alternative blood pressure treatments.

The researchers defined these events as either a decline of 40% or more in estimated glomerular filtration rate (eGFR) — the standard test used to measure how efficiently your kidneys filter waste from your blood — or progression to end-stage kidney disease requiring dialysis or a kidney transplant. If you already have diabetes and [kidney concerns](#), those outcomes represent some of the most serious complications physicians try to prevent.

- **The findings challenged expectations about modern therapy** — According to lead researcher Dr. Timna Agur, the research team originally expected that the kidney-protective effects of SGLT2 inhibitors would offset any concerns associated with DCCBs. Instead, the elevated risk remained. That observation suggests newer therapies did not fully erase the difference researchers observed between treatment strategies.
- **Changes in blood flow through the kidney's filtering structures are a likely mechanism** — In diabetic kidney disease, those filters already operate under excessive strain. Researchers believe DCCBs relax the vessel carrying blood into

each filtering unit more than the vessel carrying blood out — the reverse of how RAS inhibitors work, which ease pressure by relaxing the outflow vessel. This may result in pressure building inside an already overworked filter.

Imagine increasing water pressure entering a garden hose while partially restricting the exit point. Pressure builds inside the system. Researchers suggest a similar process could occur within the kidney's delicate filtration network, exposing those structures to greater mechanical stress over time.

- **The results raise practical questions about treatment choices** — The authors emphasized that this was an observational study, meaning it can't prove that DCCBs directly caused the poorer outcomes. Other factors could contribute to the differences observed between groups. Even so, Agur noted that "given how commonly these medications are prescribed, any increase in kidney risk could have important implications for large numbers of patients with DKD [diabetic kidney disease]."

For someone living with diabetes, this research highlights the value of understanding not only whether blood pressure is controlled, but also how different treatment approaches affect long-term kidney health. It also creates a simple challenge you can discuss with your physician: review your medication list and ask how each drug fits into your overall kidney-protection strategy rather than assuming all blood pressure medications influence the kidneys in the same way.

## **How to Lower Blood Pressure Without Adding More Stress to Your Kidneys**

High blood pressure doesn't just affect your heart. Over time, it places tremendous strain on the tiny filtering units inside your kidneys, gradually damaging the structures responsible for removing waste from your blood. While the study itself only compared blood pressure drugs, it's a reminder that the most durable strategy is to address what drives high blood pressure in the first place.

Because diabetes and **high blood pressure** frequently develop together, improving blood sugar control often may help improve blood pressure as well. When you combine better metabolic health with proper mineral balance, stress reduction and regular movement, you may help reduce the pressure that contributes to kidney strain and the need for more aggressive treatment. Here are five practical ways to start.

- 1. Fix your sodium-to-potassium balance with whole foods** — The real issue isn't the salt shaker on your table. It's the ultraprocessed food that dominates the modern diet. Packaged snacks, fast food, processed meats, and convenience meals deliver large amounts of sodium while providing **very little potassium**.

Potassium may help relax blood vessels, support healthy fluid balance and make it easier for your body to maintain normal blood pressure.

Important: if your kidney function is already reduced, do not increase potassium without your physician's guidance — damaged kidneys may not clear it safely, especially alongside RAS inhibitors, and excess potassium can affect heart rhythm. As your diet shifts toward real food, the **sodium-to-potassium ratio** naturally moves in the right direction, helping reduce strain on both your blood vessels and your kidneys.

- 2. Stop chasing low-salt numbers and improve diet quality instead** — Many people are told that severe **salt restriction** is the answer to high blood pressure. Aggressively cutting salt can increase stress hormones, raise insulin levels, and make blood pressure regulation more difficult.

Rather than obsessing over sodium numbers, remove the foods that contribute most of the problem: ultraprocessed products loaded with refined carbohydrates, phosphate additives, **seed oils**, and **excess sodium**. A diet built around nutrient-dense whole foods may support healthier blood pressure while helping reduce the workload placed on your kidneys every day.

**3. Lower the stress signals that keep blood pressure elevated** — Your nervous system plays a major role in blood pressure control. When your body remains locked in a chronic stress response, blood vessels constrict and pressure rises. One simple tool is [box breathing](#).

Breathe in for four seconds, hold for four seconds, exhale for four seconds, and hold again for four seconds. Repeat the cycle for 10 minutes daily. Combined with adequate sleep, regular outdoor time and daily movement, this may help calm your nervous system and reduce one of the most overlooked drivers of elevated blood pressure.

**4. Optimize vitamin D to support healthy blood vessel function** — Vitamin D plays a role in regulating the renin-angiotensin system, one of the primary hormone networks involved in blood pressure control. When vitamin D levels remain low, this system becomes overactive, increasing pressure throughout the vascular system and adding stress to kidney tissue.

Regular sun exposure may support vitamin D production, circulation and cellular energy generation. Aim for a vitamin D level between 60 and 80 ng/mL (150 to 200 nmol/L).

If you still consume significant amounts of seed oils and other sources of [linoleic acid](#) (LA), avoid intense sun exposure (10 a.m. to 4 p.m.) until you have substantially reduced those foods for four to six months because stored LA may increase susceptibility to sun-related skin damage. Talk to your healthcare provider about whether vitamin D testing is appropriate for you.

**5. Move enough to make your blood vessels healthier** — Physical activity remains one of the most effective ways to improve blood pressure naturally. Movement may help improve circulation, support insulin sensitivity, reduce stress, and help maintain a healthy body composition.

If you're already active, work toward an hour of walking, cycling, swimming, or similar movement most days. If you're starting from scratch, focus on consistency rather than intensity. Even a 10-minute walk after meals may help improve blood sugar control and support healthier blood pressure.

If you have Type 2 diabetes and currently take a DCCB, the European Renal Association findings make it worthwhile to review your treatment plan with your doctor. Don't stop any prescribed medication on your own. Instead, discuss whether your current approach remains the best fit for your kidney health and what additional lifestyle changes could help improve blood pressure control over time.

*\*These findings are drawn from an observational, real-world clinical study. Results may not apply to all individuals, and the study cannot establish that DCCBs directly cause poorer kidney outcomes.*

*This article is for informational purposes only and does not constitute medical advice. Consult a qualified healthcare provider before making changes to your health regimen.*

## **FAQs About Blood Pressure Medications and Kidney Health in People with Type 2 Diabetes**

**Q: What did the study find about common blood pressure medications and kidney health?**

**A:** Researchers found that people with Type 2 diabetes who took DCCBs had a 33% higher risk of major adverse kidney events (RR 1.33, 95% CI, 1.03-1.73) compared to those using other blood pressure medications. This increased risk remained even though all participants were already taking modern kidney-protective therapies.

**Q: Why might these medications increase the risk of kidney damage?**

**A:** Researchers believe DCCBs may alter blood flow inside the kidneys in a way that increases pressure within the kidneys' filtering units. Over time, that extra pressure could place additional stress on structures that are already vulnerable to damage from diabetes, which may accelerate the loss of kidney function.

**Q: Does this study prove that DCCBs directly cause kidney disease?**

**A:** No. The study was observational, meaning it identified an association rather than proving cause and effect. Other factors could have contributed to the differences seen between treatment groups. However, the findings are important because DCCBs are widely prescribed and the study involved more than 31,000 adults with Type 2 diabetes.

**Q: What can I do to lower blood pressure while supporting kidney health?**

**A:** Focus on the factors that drive high blood pressure in the first place. Improving blood sugar control, eating potassium-rich whole foods, reducing ultraprocessed foods, managing stress, maintaining healthy vitamin D levels, and staying physically active all may help support healthier blood pressure and reduce strain on your kidneys.

**Q: What if I have Type 2 diabetes and currently take a DCCB?**

**A:** Don't stop your medication on your own. Instead, review the study findings with your doctor and discuss how your current treatment plan fits into your long-term kidney-protection strategy. Ask whether your blood pressure is being managed in the most kidney-friendly way possible and whether additional lifestyle changes could help reduce your need for more aggressive treatment.

# Sources and References

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- [1, 2 European Renal Association June 4, 2026](#)