

# Picking right blood pressure medicine challenging

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(AP) -- It's hard to predict which pills will best lower which patient's high blood pressure, but researchers are hunting ways to better personalize therapy - perhaps even using a blood test.

The work is controversial, challenging today's usual approach to treating the hypertension that plagues nearly one in three U.S. adults.

Now a trio of studies shows some [drug combinations](#) work better for certain populations - and raises the possibility that measuring blood levels of a hormone involved in hypertension might help optimize some people's care.

The big surprise: Taking a drug that's a poor match to that hormone level may not just fail to work, it sometimes can trigger a jump in blood pressure.

"The idea that one size fits all doesn't make a lot of sense," says Dr. Michael Alderman of New York's Albert Einstein College of Medicine, who supports the blood test approach.

Don't expect a routine test for that hormone, called renin, any time soon. Many doctors are skeptical because initial research a few decades ago failed to show a clear benefit, says Dr. Ernesto Schiffrin of Canada's McGill University, a hypertension specialist with the American Heart Association.

"The reality is that trial and error is to some degree what has to be done because patients are different and some patients develop adverse effects with one agent and others don't," he says.

But with blood testing now easier and more reliable, some experts say it's time for broader studies to settle the debate.

"We must redirect our efforts away from the strategy of treating hypertension as one condition," wrote Wake Forest University public health specialist Dr. Curt Furberg. He pushed renin-guided therapy in an editorial accompanying the new research in this month's [American Journal of Hypertension](#).

[High blood pressure](#) is a leading cause of heart attacks, strokes and [kidney failure](#), and it's on the rise as the population becomes older, fatter and more sedentary. Only about half of patients have their hypertension under control, and the vexing hunt for the right medication is among the reasons.

Nearly everyone is urged to start with a diuretic, an old, cheap class of drugs that reduces fluid in the body, and to add medications that work in different ways as needed. Most people wind up on two or more drugs, and too frequently give up the pill-popping, not understanding that it's necessary even when they feel good. Also, many doctors are reluctant to prescribe two- and three-drug combinations until they find the right mix.

Blood pressure is a balance of how much fluid is in your arteries and how tight or relaxed those arteries are. Renin is secreted by the kidneys, and how much is in your blood helps determine if your hypertension is more a problem of fluid volume or constricted arteries, Alderman explains.

Among the new findings:

-In a study of 954 people prescribed a single drug, those with low renin levels responded best to a diuretic. But people with high renin levels responded better to such medicines as ACE inhibitors that target an artery-narrowing substance spurred by the renin, Alderman reported.

-Nearly 8 percent of patients had their [blood pressure](#) jump at least 10 points after starting medication, Alderman found. Most at risk were people who had low renin levels yet were prescribed anti-renin drugs like ACE inhibitors or beta blockers.

When doctors see that side effect, "we always assume it's the patient's fault" - that they skipped pills or ate too much salt, Alderman says. "It may not be."

-In a separate study, Dr. Stephen Turner of the Mayo Clinic found how much renin remained in the blood, while taking a first medication, predicted which additional drug was best to add for further help.

-Then there are racial and ethnic variations. Black patients tend to have lower renin levels than whites, and doctors have long known that for a first drug, blacks fare better with a diuretic than a beta blocker.

A British study tested two-drug combinations, and found blacks fared worse than whites when mixing another popular medication, a calcium channel blocker, with an ACE inhibitor. But that worked far better for south Asian patients, for unknown reasons.

Other researchers think starting everybody on two-drug combinations that hit hypertension from two directions is the way to go. A Canadian study last year supported starting with a low-dose combo of a diuretic plus an ACE inhibitor.

Stay tuned: Despite his own renin findings, Mayo's Turner says that

hormone plays a small role in patient variability - and he's hunting underlying genetic differences that might one day better guide treatment choice.

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