

Overtreatment and undertreatment of patients with high blood pressure linked to kidney failure and death

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The mantra for treatment for high blood pressure has been "the lower, the better," but that goal can potentially put patients at risk of kidney failure or death, according to a Kaiser Permanente study published today in the *Journal of the American College of Cardiology*.

Researchers examined the [electronic health records](#) of nearly 400,000 Kaiser Permanente patients in Southern California who were taking medications to treat high [blood pressure](#) from January 2006 through December 2010. They found that:

- patients within the range between 130 and 139 systolic and between 60 and 79 [diastolic blood pressure](#) were at the lowest risk for [kidney failure](#) and death;
- those who achieved a blood pressure outside of that range, either above or below, were more likely to have increased health risks;
- patients who had a [systolic blood pressure](#) in the range between 120 and 129 (widely accepted as normal) were 10 percent more likely than those who had a systolic blood pressure between 130 and 139 to die or develop kidney failure; and,
- patients who had a systolic blood pressure between 140 and 149 were 40 percent more likely than those who had a systolic rate between 130 and 139 to die or develop kidney failure.

"Physicians have often emphasized the need to bring a patient's blood

pressure down as low as possible for the best outcomes," said lead study author John J. Sim, MD, Kaiser Permanente Los Angeles Medical Center. "However, the findings of our study suggest that treating patients with high blood pressure too aggressively may potentially lead to poor health outcomes."

The results of this study also demonstrate a need to better understand the ideal target blood pressure ranges as well as the potential dangers of overtreating patients, according to the researchers.

"We hope our findings will pave the way for a more effective strategy in treating high blood pressure," said Dr. Sim. "Through personalized treatment plans, we can minimize the lifestyle burden on patients and improve the safety of their treatment regimens, while reducing the cost to both [patients](#) and the health care system as a whole."

According to National Institutes of Health, one in three people in the United States has [high blood pressure](#), costing almost \$94 billion in health care services, medications and missed days of work. High blood pressure can also lead to an array of complications, including kidney damage, heart disease and stroke. Although current treatment guidelines recommend that adults between 30 and 59 years old with hypertension should aim for a target blood pressure below 140 systolic and 90 diastolic, they do not refer to the dangers of having a patient's blood pressure drop below a certain level. Additional research could lead to more accurate guidelines aimed at safeguarding patient [health](#).

Kaiser Permanente is a national leader in reducing and preventing heart attacks and strokes. In 2012, Kaiser Permanente Colorado was recognized by the U.S. Department of Health and Human Services as the 2012 Hypertension Control Champion by Million Hearts™. Additionally, Kaiser Permanente Northern California boosted its hypertension control rate from 44 percent to 80 percent over an eight-

year period by using many best-performing clinical practices, such as establishing a hypertension registry, improving medication adherence with email and phone reminders, and making [blood pressure measurement](#) readily available.

Provided by Kaiser Permanente

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