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# Kidney disease patients require individualized care

## 1. One-Size-Fits-All Blood Pressure Recommendations Won't Suit All Dialysis Patients

### Age, Race, and Diabetes Status Affect Blood Pressure's Link to Premature Death

Previous research indicates that mild to moderate hypertension may not increase dialysis patients' risk of dying prematurely. These findings contrast with those found in the general population and are generalized to diverse groups of patients with kidney disease. To see if age, race, and the presence or absence of diabetes affects the relationship between blood pressure and risk of premature death among dialysis patients, Philip Zager, MD, Orrin Myers, PhD (University of New Mexico), and their colleagues studied medical information from 16,283 dialysis patients. The researchers found that (1) low systolic blood pressure was associated with increased risk of premature death, particularly among older patients and patients with diabetes; (2) higher systolic blood pressure was associated with increased risk of premature death among younger patients, regardless of race or diabetes status; (3) older black patients had a survival advantage over older patients of other races; and (4) diabetes was associated with increased risk of premature death mainly among older patients with low blood pressure. These findings indicate that identifying optimal blood pressure ranges for dialysis patients with kidney disease should take age and diabetes status into consideration. In an accompanying editorial, Deidra Crews, MD, ScM (Johns Hopkins University) and Neil Powe, MD, MPH, MBA (University of California San Francisco and San Francisco General Hospital) noted that "this is certainly one of the best observational studies to pay attention to how outcomes are different in certain patient groups." They added that the results raise a number of questions for clinicians as they address blood pressure in dialysis patients. "Let's hope that soon we will generate the evidence needed to guide the often complicated blood pressure management of our patients," they wrote.

The article, entitled "Age, Race, Diabetes, Blood Pressure, and Mortality among Hemodialysis Patients," (doi 10.1681/ASN.2010010125) and accompanying editorial, "Blood Pressure and Mortality among

ESRD Patients: All Patients Are Not Created Equal" (doi 10.1681/ASN.2010090971) will appear online at <http://jasn.asnjournals.org/> on October 14, 2010.

## **2. Not All Advanced Kidney Disease is the Same**

### **Rate of Kidney Function Decline Affects Risk of Premature Death**

Studies that have taken a snapshot of chronic kidney disease (CKD) indicate that the condition increases one's risk of premature death, but in reality, kidney disease is dynamic and changes over time. A recent study by Ziyad Al-Aly, MD (Saint Louis Veterans Affairs Medical Center) and his colleagues indicates that a patient who has experienced rapid kidney function decline has a higher risk of dying prematurely than a patient whose kidney function decline was mild. To come to this conclusion, the researchers studied 4,171 patients with early kidney disease, following them for approximately nine years. They found that 38% of the patients did not experience any kidney function decline, while 10%, 28%, and 24% experienced mild, moderate, and severe kidney function decline over time, respectively. The investigators also identified various risk factors for severe kidney function decline, including black race, hypertension, diabetes, cardiovascular disease, and peripheral artery disease. Patients who experienced severe kidney function decline over time had a 54% increased risk of dying during the study period compared with patients with mild kidney function decline. These findings show that the rate of kidney function decline has a significant impact on a kidney disease patient's risk of dying prematurely. "The take home message from the study is that it matters how you got here," explains Dr. Al-Aly. All patients with kidney disease have a higher risk of dying early, but rapid development of kidney disease portends poorer overall prognosis and carries an even higher risk of premature death. Therefore, physicians should carefully assess patients' change in kidney function over time and focus on strategies to protect their kidney function. In an accompanying editorial, Csaba Kovesdy, MD (Salem Veterans Affairs Medical Center and the University of Virginia) noted that the study could have some immediate and far-reaching clinical implications. It "raises awareness about the importance of the progressive nature of CKD and suggests that the incorporation of slopes of estimated glomerular filtration rate [a measure of kidney function] into the evaluation of CKD could lead to a refinement in risk stratification that may have important practical benefits," he wrote.

The article, entitled "Rate of Kidney Function Decline Associates with Mortality" (doi 10.1681/ASN.2009121210) and accompanying editorial, "Rate of Kidney Function Decline Associates with Increased Risk of Death" (doi 10.1681/ASN.2010090954) will appear online at <http://jasn.asnjournals.org/> on October 14, 2010.

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