

**Table S1.** Complete List of Trial Exclusions.

<b>Major inclusion criteria</b>	
•	Age $\geq$ 18
•	Estimated GFR between 30-59 mL/min/1.73m <sup>2</sup> by the 4-variable Modification of Diet in Renal Disease (MDRD) study equation
•	Screening systolic BP 120-159 mmHg and diastolic BP < 100 mmHg
•	Willingness to follow strict dietary rules for 13 weeks and to come to the clinical research unit each weekday for one meal during the two study periods
<b>Major exclusion criteria</b>	
•	Screening serum K $\geq$ 5 mmol/L (or history of hyperkalemia) or < 3.5 mmol/L
•	Insulin-requiring or uncontrolled (HbA1C >8.0%) diabetes mellitus
•	Use of K supplements
•	Use of digoxin
•	Cardiovascular event < 6 months ago, symptomatic ischemic heart disease, or congestive heart failure
•	Body mass index > 40 kg/m <sup>2</sup>
•	Chronic disease(s) that might interfere with trial participation
•	Pregnancy or lactation
•	14 or more alcoholic drinks/week
•	Major food allergies
<b>Maintenance medications (allowed because we expect that individuals with this stage of CKD may commonly be on these medications)</b>	
•	Anti-hypertensive and lipid-lowering therapies were allowed if participants had been on a stable dose for at least two months
•	Diuretics were allowed if participants had been on a stable dose for at least two months

**Table S2.** Nutrient Targets by Calorie Level.

Nutrient	Calorie level (kcal)		
	1600	2000	2400
Protein (g)	52	65	78
Carbohydrate (g)	200	250	300
Fat (g)	66	82	99
K (mg) (Lower, Higher)	1300/3600	1600/3900	1900/4200
Na (mg)	2640	3300	3960
Phosphorus (mg)	1000	1000	1000
Fiber (gm)	25+	25+	25+
Saturated Fat (% kcal)	8	8	8
Polyunsaturated Fat (% kcal)	12	12	12
Monounsaturated Fat (% kcal)	10	10	10

**Table S3.** Effects of Increasing Potassium on Blood Pressure by Week as well as Weekly Change from Baseline.

Difference in mm Hg, High versus Low K (95% CI)								
	N	Week 1	Week 2	Week 3	Week 4	Weekly Change - High K	Weekly Change - Low K	P-interaction
Clinic SBP, mm Hg	25	-0.96 (-6.84, 4.92)	-2.51 (-7.78, 2.76)	-2.36 (-6.47, 1.75)	-4.21 (-8.49, 0.07)	-0.64 (-2.08, 0.80)	0.33 (-1.19, 1.84)	0.34
Clinic DBP, mm Hg	25	0.81 (-1.99, 3.61)	-0.68 (-3.23, 1.87)	-0.01 (-2.26, 2.24)	-0.08 (-2.25, 2.09)	-0.53 (-1.36, 0.29)	-0.32 (-1.10, 0.46)	0.69

**Table S4.** Effects of Increasing Potassium on Blood Pressure – Sensitivity Analyses using Last 2 Blood Pressure Measurements or Repeat Measures Analyses (restricted to the subgroup with measurements each week, N=25).

Difference in mmHg, High versus Low K (95% CI)								
		Each Week				Repeated Measures Analysis		
All three measurements, mm Hg	N	Week 1	Week 2	Week 3	Week 4	Weeks 1-4	Weeks 2-4	Weeks 3-4
Clinic SBP	25	-0.96 (-6.84, 4.92)	-2.51 (-7.78, 2.76)	-2.36 (-6.47, 1.75)	-4.21 (-8.49, 0.07)	-2.52 (-5.65, 0.62)	-3.02 (-6.08, 0.04)	<b>-3.24 (-6.43, -0.05)</b>
Clinic DBP	25	0.81 (-1.99, 3.61)	-0.68 (-3.23, 1.87)	-0.01 (-2.26, 2.24)	-0.08 (-2.25, 2.09)	-0.01 (-1.56, 1.55)	-0.27 (-1.82, 1.28)	-0.02 (-1.64, 1.59)
Last two measurements, mmHg								
Clinic SBP	25	0.22 (-5.64, 6.08)	-3.26 (-8.89, 2.37)	-2.45 (-6.98, 2.09)	<b>-4.98 (-9.41, -0.55)</b>	-2.60 (-5.83, 0.62)	<b>-3.54 (-6.83, -0.25)</b>	<b>-3.64 (-6.92, -0.36)</b>
Clinic DBP	25	0.88 (-2.02, 3.78)	-0.84 (-3.21, 1.53)	0.61 (-1.77, 2.99)	0.06 (-1.95, 2.07)	0.15 (-1.38, 1.69)	-0.08 (-1.60, 1.45)	0.35 (-1.20, 1.90)

Bold represents a  $P < 0.05$ .