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Supplemental Table 1A. Association between diastolic BP parameters and LVH (in cross-section) in unadjusted and adjusted analyses, along with model discrimination.[a]

Diastolic BP Metric N=533	Unadjusted OR[c] (95% CI)	Unadjusted C-statistic (95% CI)	Adjusted OR[a,c] (95% CI)	Adjusted C-statistic (95% CI)
Awake diastolic BP load (every 10% higher)	1.1 (1.0-1.2)	0.59[b] (0.51-0.66)	1.1 (1.0-1.3)	0.77[b] (0.71-0.83)
Awake diastolic BP Index (every 0.1 higher)	1.3 (1.0-1.7)	0.59 (0.51-0.66)	1.4 (1.1-1.9)	0.78 (0.72-0.83)
Awake diastolic BP load + Awake diastolic BP index	1.0 (0.7-1.3) 1.4 (0.7-2.5)	0.59 (0.51-0.66)	0.8 (0.6-1.1) 2.1 (1.0-4.2)	0.78 (0.72-0.84)
Sleep diastolic BP load (every 10% higher)	1.1 (1.0-1.2)	0.57[b] (0.50-0.65)	1.1 (1.0-1.2)	0.77[b] (0.71-0.82)
Sleep diastolic BP index (every 0.1 higher)	1.2 (1.0-1.5)	0.58 (0.50-0.65)	1.2 (1.0-1.6)	0.77 (0.71-0.83)
Sleep diastolic BP load + Sleep diastolic BP Index	1.0 (0.8-1.3) 1.2 (0.7-2.1)	0.58 (0.50-0.65)	1.0 (0.7-1.3) 1.4 (0.7-2.6)	0.77 (0.71-0.83)

[a] Adjusted for age, sex, race, cause of CKD, BMI z-score, urine protein/creatinine ratio, anti-hypertensive use, and baseline eGFR (by bedside Schwartz), N=515 included due to missing covariates
[b] Reference group for awake or sleep c-statistic comparisons
[c] OR = odds ratio, for every 0.1 higher systolic BP index or 10% higher SBP load

Supplemental Table 1B. Association between diastolic BP parameters and ESKD and in unadjusted and adjusted analyses, along with model discrimination.[a]

Metric N=533	Unadjusted HR[c] (95% CI)	Unadjusted C-statistic (95% CI)	Adjusted HR[a, c] (95% CI)	Adjusted C-statistic (95% CI)
Awake diastolic BP load (per 10% higher)	1.1 (1.1-1.2)	0.58[b] (0.53-0.64)	1.0 (1.0-1.1)	0.88[b] (0.86-0.91)
Awake diastolic BP index (every 0.1 higher)	1.3 (1.1-1.6)	0.59 (0.53-0.64)	1.1 (1.0-1.3)	0.88 (0.85-0.91)
Awake diastolic BP load + Wake diastolic BP index	1.1 (0.9-1.3) 1.1 (0.7-1.6)	0.58 (0.52-0.64)	0.9 (0.7-1.0) 1.5 (1.0-2.3)	0.89 (0.86-0.91)
Sleep diastolic BP load (per 10% higher)	1.1 (1.0-1.2)	0.57[b] (0.51-0.63)	1.0 (1.0-1.0)	0.88[b] (0.85-0.91)
Sleep diastolic BP index (every 0.1 higher)	1.3 (1.1-1.4)	0.57 (0.51-0.63)	1.1 (0.9 -1.3)	0.88 (0.85-0.91)
Sleep diastolic BP load + Sleep diastolic BP index	1.0 (0.9-1.2) 1.1 (0.8-1.6)	0.57 (0.50-0.63)	0.8 (0.7-1.0) 1.7 (1.1-2.7)	0.89 (0.85-0.91)

[a] Adjusted for age, sex, race, cause of CKD, BMI z-score, urine protein/creatinine ratio, anti-hypertensive use, and baseline eGFR (by bedside Schwartz), N=515 included due to missing covariates
[b] Reference group for awake or sleep c-statistic comparisons
[c] HR = hazard ratio, reported for every 0.1 higher in systolic BP index or 10% higher SBP load

Supplemental Table 2. Association between systolic BP parameters and risk of LVH during two-year follow-up, along with model discrimination.

Systolic BP Metrics N=533	Unadjusted OR[c] (95% CI)	Unadjusted C-statistic (95% CI)	Adjusted OR[a, c] (95% CI)	Adjusted C-statistic (95% CI)
Awake systolic BP load (every 10% higher)	1.3 (1.1-1.5)	0.61[b] (0.54-0.67)	1.2 (1.0-1.4)	0.77[b] (0.72-0.82)
Awake systolic BP Index (every 0.1 higher)	2.1 (1.3-3.4)	0.62 (0.56-0.68)	1.9 (1.2-2.9)	0.78 (0.73-0.83)
Awake systolic BP load + Awake systolic BP index	1.1 (0.8-1.6) 1.6 (0.6-4.6)	0.62 (0.55-0.68)	1.0 (0.7-1.4) 1.7 (0.6-4.6)	0.78 (0.73-0.83)
Sleep systolic BP load (every 10% higher)	1.2 (1.1-1.4)	0.63[b] (0.57-0.69)	1.2 (1.0-1.3)	0.78[b] (0.73-0.83)
Sleep systolic BP index (every 0.1 higher)	1.9 (1.2-2.9)	0.63 (0.56-0.69)	1.6 (1.1-2.3)	0.77 (0.72-0.83)
Sleep systolic BP load + Sleep systolic BP Index	1.2 (0.9-1.5) 1.3 (0.6-2.9)	0.62 (0.56-0.69)	1.1 (0.9-1.5) 1.1 (0.5-2.4)	0.78 (0.73-0.83)

[a] Adjusted for age, sex, race, cause of CKD, BMI z-score, urine protein/creatinine ratio, anti-hypertensive use, and baseline eGFR (by bedside Schwartz).
[b] Reference group for awake or sleep c-statistic comparisons
[c] OR = odds ratio, odds ratio, for every 0.1 higher systolic BP index or 10% higher SBP load

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Supplemental Table 3A. Association between systolic BP parameters and LVH in unadjusted and adjusted analyses using BP load as a categorical predictor along with model discrimination.[a]

Systolic BP Metrics N=533	Unadjusted OR[c] (95% CI)	Unadjusted C-statistic (95% CI)	Adjusted OR[a,c] (95% CI)	Adjusted C-statistic (95% CI)
Awake Systolic BP 0-<25% 25-<50% 50-100%	Reference 1.6 (0.8-3.2) 2.1 (1.1-4.0)	0.57[b] (0.51-0.64)	Reference 1.6 (0.8-3.4) 2.0 (0.9-4.4)	0.77[b] (0.71-0.83)
Awake systolic BP Index (every 0.1 higher)	1.7 (1.2-2.3)	0.62 (0.55-0.69)	1.6 (1.1-2.3)	0.78 (0.73-0.83)
Awake systolic BP load 0-<25% 25-<50% 50-100% + Awake systolic BP index (every 0.1 higher)	Reference 0.9 (0.4-2.0) 0.7 (0.2-2.1) 2.0 (1.1-3.5)	0.62 (0.55-0.69)	Reference 1.0 (0.4-2.4) 0.8 (0.2-2.9) 1.8 (0.9-3.4)	0.78 (0.73-0.84)
Sleep systolic BP load 0-<25% 25-<50% 50-100%	Reference 1.9 (0.9-3.7) 1.9 (1.0-3.7)	0.58[b] (0.51-0.65)	Reference 1.9 (0.9-3.9) 1.7 (0.8-3.5)	0.77[b] (0.72-0.83)
Sleep systolic BP index (every 0.1 higher)	1.5 (1.1-2.0)	0.63 (0.56-0.70)	1.5 (1.1-2.0)	0.78 (0.72-0.83)
Sleep systolic BP load 0-<25% 25-<50% 50-100% + Sleep systolic BP Index (every 0.1 higher)	Reference 1.1 (0.5-2.6) 0.7 (0.2-2.3) 1.6 (1.0-2.7)	0.63 (0.56-0.70)	Reference 1.1 (0.5-2.8) 0.7 (0.2-2.3) 1.7 (0.9-2.9)	0.78 (0.72-0.84)

[a] Adjusted for age, sex, race, cause of CKD, BMI z-score, urine protein/creatinine ratio, anti-hypertensive use, and baseline eGFR (by bedside Schwartz), N=515 included due to missing covariates

[b] Reference group for all c-statistic comparisons of models for awake or sleep parameters

[c] OR = odds ratio, for every 0.1 higher systolic BP index or higher BP load category

Supplementary Table 3B. Association between systolic BP parameters and ESKD in unadjusted and adjusted analyses using BP load as a categorical predictor along with model discrimination.[a]

Systolic BP Metrics N=533	Unadjusted HR[c] (95% CI)	Unadjusted C-statistic (95% CI)	Adjusted HR[a, c] (95% CI)	Adjusted C-statistic (95% CI)
Awake Systolic BP 0-<25% 25-<50% 50-100%	Reference 1.9 (1.2-3.0) 2.5 (1.6-3.8)	0.59[b] (0.54-0.63)	Reference 1.5 (0.9-2.3) 1.5 (0.9-2.4)	0.89[b] (0.85-0.91)
Awake systolic BP Index (every 0.1 higher)	1.6 (1.3-1.9)	0.60 (0.55-0.65)	1.3 (1.0-1.5)	0.89 (0.86-0.91)
Awake systolic BP load 0-<25% 25-<50% 50-100% + Awake systolic BP index	Reference 1.5 (0.8-2.6) 1.6 (0.7-3.3) 1.3 (0.9-1.9)	0.60 (0.55-0.66)	Reference 1.1 (0.6-2.1) 1.0 (0.4-2.2) 1.2 (0.9-1.8)	0.89 (0.86-0.91)
Sleep systolic BP load 0-<25% 25-<50% 50-100%	Reference 1.3 (0.8-2.1) 2.1 (1.4-3.1)	0.58[b] (0.52-0.61)	Reference 1.3 (0.8-2.2) 1.4 (0.9-2.3)	0.88[b] (0.85-0.91)
Sleep systolic BP index (every 0.1 increase)	1.4 (1.1-1.6)	0.57 (0.52-0.63)	1.2 (1.0-1.4)	0.89 (0.85-0.91)
Sleep systolic BP load 0-<25% 25-<50% 50-100% + Sleep systolic BP Index	Reference 1.1 (0.6-1.9) 1.4 (0.7-2.9) 1.2 (0.9-1.7)	0.58 (0.53-0.63)	Reference 1.2 (0.7-2.3) 1.2 (0.6-2.8) 1.1 (0.8-1.5)	0.89 (0.85-0.91)

[a] Adjusted for age, sex, race, cause of CKD, BMI z-score, urine protein/creatinine ratio, anti-hypertensive use, and baseline eGFR (by bedside Schwartz), N=515 included due to missing covariates

[b] Reference group for all c-statistic comparisons of models for awake or sleep parameters

[c] HR = hazard ratio, for every 0.1 higher systolic BP index or higher BP load category