## SUPPLEMENTAL MATERIAL

Supplemental Table 1. Associations of continuous estimated glomerular filtration rate (eGFR) with individual gait variables (additional covariates included).

Supplemental Table 2. Associations of continuous estimated glomerular filtration rate (eGFR) with factor analysis gait domains (additional covariates included).

Supplemental Table 3. Rotated component loadings of eight gait variables using principal component analysis.

Supplemental Table 4. Associations of continuous estimated glomerular filtration rate (eGFR) with principal component analysis gait domains.

Supplemental Table 5. Associations of continuous estimated glomerular filtration rate (eGFR) with factor analysis gait domains after exclusion of diabetes or neuropathy.

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Supplemental Table 1. Associations of continuous estimated glomerular filtration rate (eGFR) with individual gait variables (additional covariates included)

| Gait variable | $\begin{gathered} \text { eGFR } \geq 60 \\ (n=184) \end{gathered}$ |  | eGFR <60$(n=119)$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  |  | $0 \mathrm{ml} / \mathrm{m}$ |  |  |
|  | Coefficient (95\% CI) | $P$ | Coefficient (95\% CI) | P |
|  | Walking-while-talking |  |  |  |
| Speed, cm/s | $\begin{gathered} -0.6 \\ (-3.5,2.3) \end{gathered}$ | 0.69 | $\begin{gathered} -3.5 \\ (-6.7,-0.3) \end{gathered}$ | 0.03 |
| Cadence, steps/min | $\begin{gathered} -0.9 \\ (-3.5,1.6) \end{gathered}$ | 0.45 | $\begin{gathered} -1.7 \\ (-4.5,1.1) \end{gathered}$ | 0.22 |
| Step length, cm | $\begin{gathered} 0.3 \\ (-0.9,1.5) \end{gathered}$ | 0.63 | $\begin{gathered} -1.6 \\ (-3.0,-0.2) \end{gathered}$ | 0.02 |
| Swing, \% | $\begin{gathered} 0.4 \\ (-0.2,0.9) \end{gathered}$ | 0.18 | $\begin{gathered} -0.9 \\ (-1.5,-0.3) \end{gathered}$ | 0.006 |
| Stance, \% | $\begin{gathered} -0.4 \\ (-0.9,0.2) \end{gathered}$ | 0.18 | $\begin{gathered} 0.9 \\ (0.3,1.5) \end{gathered}$ | 0.005 |
| Double support, \% | $\begin{gathered} -0.2 \\ (-1.1,0.7) \end{gathered}$ | 0.65 | $\begin{gathered} 1.2 \\ (0.3,2.2) \end{gathered}$ | 0.01 |
| Step time SD, s | $\begin{gathered} 0.02 \\ (-0.01,0.1) \end{gathered}$ | 0.28 | $\begin{gathered} 0.003 \\ (-0.03,0.04) \end{gathered}$ | 0.87 |
| Swing time SD, s | $\begin{gathered} 0.01 \\ (-0.01,0.02) \\ \hline \end{gathered}$ | 0.24 | $\begin{gathered} -0.01 \\ (-0.02,0.01) \\ \hline \end{gathered}$ | 0.35 |
|  | Dual-task cost |  |  |  |
| Speed DTC, \% | $\begin{gathered} -0.4 \\ (-2.9,2.2) \end{gathered}$ | 0.79 | $\begin{gathered} -1.7 \\ (-4.6,1.1) \end{gathered}$ | 0.22 |
| Cadence DTC, \% | $\begin{gathered} -0.7 \\ (-3.0,1.5) \end{gathered}$ | 0.52 | $\begin{gathered} -1.1 \\ (-3.6,1.3) \end{gathered}$ | 0.37 |
| Step length DTC, \% | $\begin{gathered} 0.0001 \\ (-1.5,1.5) \end{gathered}$ | 1.00 | $\begin{gathered} -0.7 \\ (-2.4,0.9) \end{gathered}$ | 0.39 |
| Swing DTC, \% | $\begin{gathered} 1.0 \\ (-0.4,2.3) \end{gathered}$ | 0.16 | $\begin{gathered} -1.5 \\ (-3.0,-0.05) \end{gathered}$ | 0.04 |
| Stance DTC, \% | $\begin{gathered} -0.5 \\ (-1.1,0.2) \end{gathered}$ | 0.18 | $\begin{gathered} 0.7 \\ (-0.002,1.5) \end{gathered}$ | 0.051 |
| Double support DTC, \% | $\begin{gathered} -0.7 \\ (-2.4,1.0) \end{gathered}$ | 0.43 | $\begin{gathered} 1.6 \\ (-0.3,3.4) \end{gathered}$ | 0.10 |
| Step time SD DTC, \% ( $\mathrm{n}=300$ ) | $\begin{gathered} 153.7 \\ (-87.6,395.0) \end{gathered}$ | 0.21 | $\begin{gathered} -26.5 \\ (-291.3,238.3) \end{gathered}$ | 0.84 |
| Swing time SD DTC, \% ( $\mathrm{n}=302$ ) | $\begin{gathered} 71.6 \\ (-12.0,155.2) \end{gathered}$ | 0.09 | $\begin{gathered} -46.4 \\ (-138.4,45.6) \end{gathered}$ | 0.32 |

Multivariable linear regression adjusting for age, sex, race, education, body mass index, neuropathy, number of comorbidities, number of medications, diuretic use, acidosis, hemoglobin, mean arterial pressure, and performance of exercise in the past 30 days. Linear splines for eGFR were constructed with knot placed at $60 \mathrm{ml} / \mathrm{min} / 1.73 \mathrm{~m}^{2}$. Dual-task cost = (walking-while-talking dual-task gait variable -walking-only single-task gait variable) / (walking-only single-task gait variable) $\times 100 \%$. $95 \% \mathrm{CI}, 95 \%$ confidence interval. DTC, dual-task cost. SD, standard deviation.

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Supplemental Table 2. Associations of continuous estimated glomerular filtration rate (eGFR) with factor analysis gait domains (additional covariates included)

| Gait domain | eGFR $\geq 60$ |  | $\begin{aligned} & \text { eGFR <60 } \\ & \mathbf{n}^{2} \text { lower eGFR) } \\ & \hline \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \hline \text { Coefficient } \\ (95 \% \mathrm{CI}) \end{gathered}$ | $P$ | $\begin{gathered} \hline \text { Coefficient } \\ (95 \% \mathrm{Cl}) \\ \hline \end{gathered}$ | $P$ |
|  | Walking-while-talking |  |  |  |
| Rhythm | $\begin{gathered} 0.1 \\ (-0.04,0.2) \end{gathered}$ | 0.24 | $\begin{gathered} -0.2 \\ (-0.3,-0.1) \end{gathered}$ | 0.004 |
| Pace | $\begin{gathered} -0.1 \\ (-0.2,0.1) \end{gathered}$ | 0.38 | $\begin{gathered} -0.04 \\ (-0.2,0.1) \end{gathered}$ | 0.63 |
| Variability | $\begin{gathered} 0.1 \\ (-0.1,0.2) \\ \hline \end{gathered}$ | 0.28 | $\begin{array}{r} -0.04 \\ (-0.2,0.1) \\ \hline \end{array}$ | 0.64 |
|  | ( $\mathrm{n}=181$ ) | Dual-task cost |  |  |
| Rhythm DTC | $\begin{gathered} 0.1 \\ (-0.04,0.2) \end{gathered}$ | 0.15 | $\begin{gathered} -0.2 \\ (-0.3,-0.01) \end{gathered}$ | 0.04 |
| Pace DTC | $\begin{gathered} -0.1 \\ (-0.2,0.1) \end{gathered}$ | 0.32 | $\begin{gathered} -0.02 \\ (-0.2,0.1) \end{gathered}$ | 0.82 |
| Variability DTC | $\begin{gathered} 0.1 \\ (-0.05,0.2) \end{gathered}$ | 0.20 | $\begin{gathered} -0.03 \\ (-0.2,0.1) \end{gathered}$ | 0.66 |

Multivariable linear regression adjusting for age, sex, race, education, body mass index, neuropathy, number of comorbidities, number of medications, diuretic use, acidosis, hemoglobin, mean arterial pressure, and performance of exercise in the past 30 days was performed. Linear splines for eGFR were constructed with knot placed at $60 \mathrm{ml} / \mathrm{min} / 1.73 \mathrm{~m}^{2} .95 \% \mathrm{CI}, 95 \%$ confidence interval. DTC, dual-task cost.

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Supplemental Table 3. Rotated component loadings of eight gait variables using principal component analysis

| Gait variable | Gait Domain |  |  |
| :---: | :---: | :---: | :---: |
|  | Walking-while-talking ( $\mathrm{n}=330$ ) |  |  |
|  | Rhythm | Pace | Variability |
| Swing, \% | 0.52 | -0.01 | 0.09 |
| Step length, cm | 0.40 | -0.01 | -0.33 |
| Double support, \% | -0.45 | -0.09 | 0.11 |
| Stance, \% | -0.52 | 0.01 | -0.09 |
| Cadence, steps/min | -0.04 | 0.73 | 0.20 |
| Speed, cm/s | 0.21 | 0.50 | -0.06 |
| Swing time SD, s | 0.24 | -0.45 | 0.37 |
| Step time SD, s | 0.02 | 0.06 | 0.83 |
| Variance Explained, \% | 44 | 27 | 17 |
|  | Dual-task cost$(\mathrm{n}=326)$ |  |  |
|  | Rhythm DTC | Pace DTC | Variability DTC |
| Swing DTC, \% | 0.55 | -0.03 | 0.01 |
| Double support DTC, \% | -0.42 | -0.14 | 0.14 |
| Stance DTC, \% | -0.55 | 0.05 | -0.02 |
| Cadence DTC, \% | 0.02 | 0.63 | 0.13 |
| Speed DTC, \% | 0.14 | 0.57 | -0.04 |
| Swing time SD DTC, \% | 0.31 | -0.48 | 0.17 |
| Step time SD DTC, \% | 0.13 | 0.10 | 0.86 |
| Step length DTC, \% | 0.29 | 0.10 | -0.44 |
| Variance Explained (\%) | 38 | 30 | 16 |

Principal component analysis was performed with varimax rotation. The highest loading variables are in bold. DTC, dual-task cost. SD, standard deviation. Step time SD DTC, $n=327$; swing time SD DTC, $\mathrm{n}=329$.

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Supplemental Table 4. Associations of continuous estimated glomerular filtration rate (eGFR) with principal component analysis gait domains

| Gait domain | eGFR $\geq 60$ |  | $\begin{aligned} & \text { eGFR <60 } \\ & \mathbf{n}^{2} \text { lower eGFR) } \\ & \hline \end{aligned}$ |  |
| :---: | :---: | :---: | :---: | :---: |
|  | $\begin{gathered} \hline \text { Coefficient } \\ (95 \% \mathrm{CI}) \end{gathered}$ | $P$ | $\begin{gathered} \hline \text { Coefficient } \\ (95 \% \mathrm{CI}) \end{gathered}$ | $P$ |
|  | Walking-while-talking |  |  |  |
| Rhythm | $\begin{gathered} 0.2 \\ (-0.03,0.4) \end{gathered}$ | 0.09 | $\begin{gathered} -0.4 \\ (-0.6,-0.2) \end{gathered}$ | <0.001 |
| Pace | $\begin{gathered} -0.04 \\ (-0.2,0.1) \end{gathered}$ | 0.63 | $\begin{gathered} -0.1 \\ (-0.3,0.1) \end{gathered}$ | 0.30 |
| Variability | $\begin{gathered} 0.1 \\ (-0.1,0.2) \\ \hline \end{gathered}$ | 0.29 | $\begin{gathered} -0.002 \\ (-0.2,0.1) \\ \hline \end{gathered}$ | 0.98 |
|  | Dual-task cost |  |  |  |
| Rhythm DTC | $\begin{gathered} 0.2 \\ (0.01,0.4) \end{gathered}$ | 0.04 | $\begin{gathered} -0.3 \\ (-0.5,-0.1) \end{gathered}$ | 0.01 |
| Pace DTC | $\begin{gathered} -0.03 \\ (-0.2,0.2) \end{gathered}$ | 0.75 | $\begin{gathered} -0.1 \\ (-0.3,0.2) \end{gathered}$ | 0.60 |
| Variability DTC | $\begin{gathered} 0.1 \\ (-0.1,0.2) \end{gathered}$ | 0.38 | $\begin{gathered} -0.01 \\ (-0.2,0.1) \end{gathered}$ | 0.86 |

Multivariable linear regression adjusting for age, sex, race, education, body mass index, neuropathy, number of comorbidities, and number of medications was performed. Linear splines for eGFR were constructed with knot placed at $60 \mathrm{ml} / \mathrm{min} / 1.73 \mathrm{~m}^{2} .95 \% \mathrm{Cl}, 95 \%$ confidence interval. DTC, dual-task cost.

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Supplemental Table 5. Associations of continuous estimated glomerular filtration rate (eGFR) with factor analysis gait domains after exclusion of diabetes or neuropathy

| Gait domain | EXCLUDING PARTICIPANTS WITHDIABETES |  |  |  | EXCLUDING PARTICIPANTS WITH NEUROPATHY |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
|  | eGFR $\geq 60$ eGFR $<60$ <br> (Per $10 \mathrm{ml} / \mathrm{min} / 1.73 \mathrm{~m}^{2}$ lower eGFR)  |  |  |  | eGFR $\geq 60$ eGFR $<60$ <br> (Per $10 \mathrm{ml} / \mathrm{min} / 1.73 \mathrm{~m}^{2}$ lower eGFR)  |  |  |  |
|  | $\begin{gathered} \text { Coefficient } \\ (95 \% \mathrm{Cl}) \\ \hline \end{gathered}$ |  | $\begin{gathered} \text { Coefficient } \\ (95 \% \mathrm{CI}) \end{gathered}$ | $P$ | $\begin{gathered} \text { Coefficient } \\ (95 \% \mathrm{CI}) \end{gathered}$ | $P$ | $\begin{gathered} \text { Coefficient } \\ (95 \% \mathrm{CI}) \end{gathered}$ | $P$ |
|  | $\begin{aligned} & \text { Walking-while-talking } \\ & (\mathrm{n}=160) \quad(\mathrm{n}=105) \end{aligned}$ |  |  |  | $\begin{gathered} \text { Walking-while-talking } \\ (\mathrm{n}=174) \end{gathered} \quad(\mathrm{n}=119)$ |  |  |  |
| Rhythm | $\begin{gathered} 0.1 \\ (0.02,0.2) \end{gathered}$ |  | $\begin{gathered} -0.2 \\ (-0.3,-0.1) \end{gathered}$ | 0.001 | $\begin{gathered} 0.1 \\ (-0.002,0.2) \end{gathered}$ | 0.054 | $\begin{gathered} -0.2 \\ (-0.3,-0.1) \end{gathered}$ | 0.001 |
| Pace | $\begin{gathered} -0.04 \\ (-0.2,0.1) \end{gathered}$ | 0.56 | $\begin{gathered} 0.02 \\ (-0.1,0.2) \end{gathered}$ | 0.82 | $\begin{gathered} -0.04 \\ (-0.2,0.1) \end{gathered}$ | 0.54 | $\begin{gathered} -0.01 \\ (-0.1,0.1) \end{gathered}$ | 0.88 |
| Variability | $\begin{gathered} 0.1 \\ (-0.04,0.3) \end{gathered}$ | 0.15 | $\begin{gathered} -0.1 \\ (-0.2,0.1) \\ \hline \end{gathered}$ | 0.36 | $\begin{gathered} 0.03 \\ (-0.1,0.1) \end{gathered}$ | $0.51$ | $\begin{gathered} -0.04 \\ (-0.1,0.1) \end{gathered}$ | 0.38 |
|  | Dual-task cost |  |  |  | Dual-task cost |  |  |  |
| Rhythm DTC | $\begin{gathered} 0.1 \\ (-0.003,0.3) \end{gathered}$ | 0.055 | $\begin{gathered} -0.2 \\ (-0.3,- \\ 0.03) \end{gathered}$ | 0.02 | $\begin{gathered} 0.1 \\ (-0.02,0.2) \end{gathered}$ | 0.09 | $\begin{gathered} -0.1 \\ (-0.3,-0.01) \end{gathered}$ | 0.03 |
| Pace DTC | $\begin{gathered} -0.05 \\ (-0.2,0.1) \end{gathered}$ | 0.51 | $\begin{gathered} 0.01 \\ (-0.1,0.2) \end{gathered}$ | 0.85 | $\begin{gathered} -0.1 \\ (-0.2,0.1) \end{gathered}$ | 0.46 | $\begin{gathered} -0.001 \\ (-0.1,0.1) \end{gathered}$ | 0.99 |
| Variability DTC | $\begin{gathered} 0.1 \\ (-0.1,0.2) \end{gathered}$ | 0.27 | $\begin{gathered} -0.03 \\ (-0.2,0.1) \end{gathered}$ | 0.67 | $\begin{gathered} 0.02 \\ (-0.05,0.1) \end{gathered}$ | 0.57 | $\begin{gathered} -0.03 \\ (-0.1,0.05) \end{gathered}$ | 0.50 |

Multivariable linear regression adjusting for age, sex, race, education, body mass index, neuropathy, number of comorbidities, and number of medications was performed. Linear splines for eGFR were constructed with knot placed at $60 \mathrm{ml} / \mathrm{min} / 1.73 \mathrm{~m}^{2} .95 \% \mathrm{CI}, 95 \%$ confidence interval. DTC, dual-task cost.

