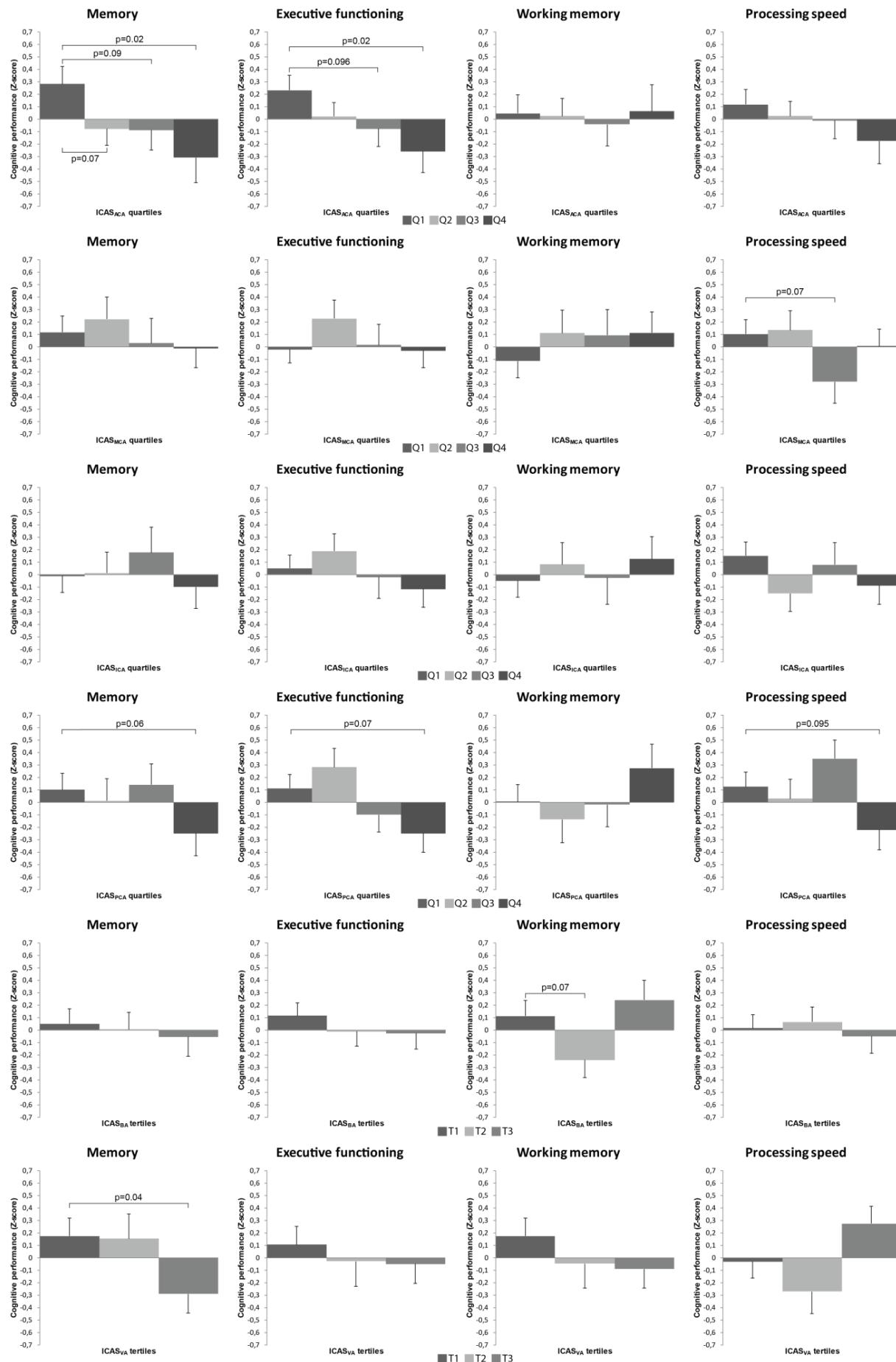


**Supplemental Figure e-1.** Adjusted mean domain-specific cognitive functioning Z-scores per approximate quartile (or tertile) of artery-specific ICAS burden.



Values are presented as adjusted mean $\pm$ SE Z-scores adjusted for age, sex, educational level, reading ability, and vascular risk factors. ANCOVA was used to test for differences in cognitive performance with the lowest quartile (or tertile) as reference.

Adjusted mean $\pm$ SE Z-score per ICAS<sub>ACA</sub> quartile with p-value for estimated marginal means pairwise comparisons for memory ( $p=0.09$ ): Q1,  $0.28\pm0.14$ ; Q2,  $-0.08\pm0.13$ ; Q3,  $-0.09\pm0.16$ ; Q4,  $-0.31\pm0.20$ ; executive functioning ( $p=0.12$ ): Q1,  $0.23\pm0.12$ ; Q2,  $0.02\pm0.11$ ; Q3,  $-0.08\pm0.14$ ; Q4,  $-0.26\pm0.17$ ; working memory ( $p=0.98$ ): Q1,  $0.05\pm0.15$ ; Q2,  $0.02\pm0.14$ ; Q3,  $-0.04\pm0.18$ ; Q4,  $0.06\pm0.22$ ; processing speed ( $p=0.62$ ): Q1,  $0.12\pm0.12$ ; Q2,  $0.02\pm0.12$ ; Q3,  $-0.01\pm0.15$ ; Q4,  $-0.18\pm0.18$ .

Adjusted mean $\pm$ SE Z-score per ICAS<sub>MCA</sub> quartile with p-value for estimated marginal means pairwise comparisons for memory ( $p=0.51$ ): Q1,  $0.12\pm0.13$ ; Q2,  $0.22\pm0.18$ ; Q3,  $0.03\pm0.20$ ; Q4,  $-0.01\pm0.16$ ; executive functioning ( $p=0.55$ ): Q1,  $-0.02\pm0.11$ ; Q2,  $0.23\pm0.15$ ; Q3,  $0.01\pm0.17$ ; Q4,  $-0.03\pm0.14$ ; working memory ( $p=0.67$ ): Q1,  $-0.12\pm0.14$ ; Q2,  $0.11\pm0.19$ ; Q3,  $0.09\pm0.21$ ; Q4,  $0.11\pm0.17$ ; processing speed ( $p=0.28$ ): Q1,  $0.10\pm0.11$ ; Q2,  $0.13\pm0.15$ ; Q3,  $-0.28\pm0.17$ ; Q4,  $0.00\pm0.14$ .

Adjusted mean $\pm$ SE Z-score per ICAS<sub>ICA</sub> quartile with p-value for estimated marginal means pairwise comparisons for memory ( $p=0.78$ ): Q1,  $-0.01\pm0.13$ ; Q2,  $0.01\pm0.17$ ; Q3,  $0.18\pm0.20$ ; Q4,  $-0.10\pm0.17$ ; executive functioning ( $p=0.50$ ): Q1,  $0.05\pm0.11$ ; Q2,  $0.19\pm0.14$ ; Q3,  $-0.02\pm0.17$ ; Q4,  $-0.12\pm0.14$ ; working memory ( $p=0.87$ ): Q1,  $-0.05\pm0.14$ ; Q2,  $0.08\pm0.17$ ; Q3,  $-0.03\pm0.21$ ; Q4,  $0.12\pm0.18$ ; processing speed ( $p=0.36$ ): Q1,  $0.15\pm0.11$ ; Q2,  $-0.15\pm0.15$ ; Q3,  $-0.08\pm0.18$ ; Q4,  $-0.09\pm0.15$ .

Adjusted mean $\pm$ SE Z-score per ICAS<sub>PCA</sub> quartile with p-value for estimated marginal means pairwise comparisons for memory ( $p=0.18$ ): Q1,  $0.10\pm0.13$ ; Q2,  $0.01\pm0.18$ ; Q3,  $0.14\pm0.17$ ; Q4,  $-0.25\pm0.18$ ; executive functioning ( $p=0.07$ ): Q1,  $0.11\pm0.11$ ; Q2,  $0.28\pm0.15$ ; Q3,  $-0.10\pm0.14$ ; Q4,  $-0.25\pm0.15$ ; working memory ( $p=0.49$ ): Q1,  $0.00\pm0.14$ ; Q2,  $-0.14\pm0.19$ ; Q3,  $-0.02\pm0.18$ ; Q4,  $0.27\pm0.19$ ; processing speed ( $p=0.41$ ): Q1,  $0.12\pm0.12$ ; Q2,  $0.03\pm0.16$ ; Q3,  $0.35\pm0.15$ ; Q4,  $-0.22\pm0.16$ .

Adjusted mean $\pm$ SE Z-score per ICAS<sub>BA</sub> tertile with p-value for estimated marginal means pairwise comparisons for memory ( $p=0.87$ ): T1,  $0.05\pm0.12$ ; T2,  $0.00\pm0.14$ ; T3,  $-0.06\pm0.16$ ; executive functioning ( $p=0.62$ ): T1,  $0.11\pm0.10$ ; T2,  $-0.01\pm0.12$ ; T3,  $-0.03\pm0.13$ ; working memory ( $p=0.07$ ): T1,  $0.11\pm0.13$ ; T2,  $-0.24\pm0.14$ ; T3,  $0.24\pm0.16$ ; processing speed ( $p=0.83$ ): T1,  $0.01\pm0.11$ ; T2,  $0.06\pm0.12$ ; T3,  $-0.05\pm0.14$ .

Adjusted mean $\pm$ SE Z-score per ICAS<sub>VA</sub> tertile with p-value for estimated marginal means pairwise comparisons for memory ( $p=0.08$ ): T1,  $0.17\pm0.15$ ; T2,  $0.15\pm0.20$ ; T3,  $-0.29\pm0.16$ ; executive functioning ( $p=0.78$ ): T1,  $0.10\pm0.16$ ; T2,  $-0.03\pm0.20$ ; T3,  $-0.05\pm0.16$ ; working memory ( $p=0.47$ ): T1,  $0.17\pm0.15$ ; T2,  $-0.05\pm0.20$ ; T3,  $-0.09\pm0.16$ ; processing speed ( $p=0.05$ ): T1,  $-0.03\pm0.13$ ; T2,  $-0.27\pm0.18$ ; T3,  $0.27\pm0.14$ .