

Paper Category:	Diagnosis and Aetiology
Paper Title: (Arial Font; 14 Pt Size)	Relationship Between Time Response of Grip Strength and Cognitive Function in Older Adults
Abstract Body: (Arial Font; 12Pt Size)	<ul style="list-style-type: none"> • Background Muscle strength is known to affect cognitive function, but there have been few reports on the relationship between muscle response and cognitive function. • Objectives The purpose of this study was to clarify the relationship between the time response of grip strength and cognitive function in older adults. • Method The subjects included 327 patients (119 males, average age 77.5 ± 9.0 years) who visited the Integrated Healthy Aging Clinic. Cognitive function was evaluated using MMSE (Mini-Mental State Examination) and MoCA (Montreal Cognitive Assessment) (Japanese version). Grip strength was measured using a grip dynamometer developed by our center and age-adjusted partial correlation coefficients with cognitive function were calculated separately for the left and right sides using muscle reaction time (RT), maximum force reaching time constant (TC), rate of force development (RFD), and maximum value of force (MVF) as indices. • Results RT correlated with MoCA in female right hands ($p < 0.05$) and TC correlated with MMSE in male left hands ($p < 0.01$). RFD was correlated with both MMSE and MoCA in right and left hands for men (both $p < 0.05$ for right, both $p < 0.01$ for left), but no correlation for either hand was found in women. MVF was correlated with MMSE and MoCA for both hands in males and for female left hands ($p < 0.05$ for left MMSE in men and women, $p < 0.01$ for others), but was correlated only with MoCA for female right hands ($p < 0.05$). • Discussions and Conclusions We examined the relationship between cognitive function and grip strength using maximum grip strength and muscle response while considering the time axis. RFD showed a clear gender difference.

	Left-right differences were observed in females for RT and males for TC.
(Maximum word limit - 300 words)	

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