

## Journal of Neuro-Oncology - Online Resource 1

## Cognitive functioning and predictors thereof in patients with 1-10 brain metastases selected for stereotactic radiosurgery

Wietske C.M. Schimmel, MSc<sup>1,2,3</sup>, Karin Gehring, PhD<sup>2,3</sup>, Patrick E. J. Hanssens, MD<sup>1,2</sup>, ANDMargriet M. Sitskoorn, PhD<sup>2,3</sup><sup>1</sup> Elisabeth-TweeSteden Hospital - Gamma Knife Center, Tilburg, The Netherlands<sup>2</sup> Elisabeth-TweeSteden Hospital - Department of Neurosurgery, Tilburg, The Netherlands<sup>3</sup> Tilburg University, Department of Cognitive Neuropsychology, Tilburg, The NetherlandsCorresponding author: [w.c.m.schimmel@tilburguniversity.edu](mailto:w.c.m.schimmel@tilburguniversity.edu)**Supplementary Table 1.** Correlations Between Clinical Characteristics and Patients' Cognitive Test Performance <sup>a</sup>

	Number of BM	Total volume of BM	KPS	DS-GPA	Systemic therapy (y/n)	Chemo-therapy <sup>c</sup>	Sympt / Asympt BM (0/1)	Synchr / Metachr dx of BM (0/1)	Epileptic seizures (y/n)	Time from primary cancer dx to enrollment
HVLT-R immediate recall	.096	-.011	.103	.024	-.128	<b>-.234*</b>	<b>-.236*</b>	<b>-.284**</b>	-.155	-.015
HVLT-R delayed recall	.154	-.189	.067	-.033	-.089	<b>-.233*</b>	-.187	<b>-.271**</b>	-.084	-.032
HVLT-R recognition	.028	-.160	.068	-.073	-.132	-.123	<b>-.260*</b>	<b>-.299**</b>	-.052	-.089
TMT A	.180	-.099	.024	-.186	-.123	<b>-.301**</b>	.067	<b>-.260*</b>	-.026	-.190
TMT B A <sup>b</sup>	-.087	-.102	.160	.111	.033	-.024	-.212	-.195	.141	.049
COWA	.121	-.055	.036	.000	-.090	-.112	-.096	<b>-.213*</b>	-.063	-.014
Digit Span forward	-.028	-.114	-.005	-.050	-.046	-.062	-.137	-.159	-.080	-.026
Digit Span backward	-.064	<b>-.230*</b>	.042	-.153	.054	-.059	<b>-.212*</b>	-.145	-.185	.094
Digit Symbol	.006	-.161	.205	-.089	-.067	-.196	-.139	<b>-.274*</b>	-.009	-.039
GP dominant hand	.036	-.127	.140	.052	.043	-.059	-.107	-.160	-.145	.110
GP non-dominant hand	.036	-.007	<b>.301**</b>	.177	-.151	-.104	-.080	<b>-.293**</b>	.074	.084

\*  $p \leq .05$ ; \*\*  $p \leq .01$ . Note. KPS = Karnofsky performance scale; BM = brain metastases; DS-GPA = diagnosis-specific graded prognostic assessment; (A)Sympt: (a)symptomatic; Synchr: synchronous; Metachr: metachronous; dx = diagnosis. <sup>a</sup> Higher z scores reflect better performance. <sup>b</sup> TMT B|A: Trails B adjusted for sex, age, educational level and Trails A. <sup>c</sup> Alone or in combination with other systemic therapies.

**Supplementary Table 2.** Correlations Between Psychological Measures <sup>a</sup> and Patients' Cognitive Test Performance <sup>b</sup>

	General Fatigue	Physical Fatigue	Reduced Activity	Reduced Motivation	Mental Fatigue	Symptoms of Anxiety	Symptoms of Depression
HVLT-R immediate recall	-.064	.005	-.005	-.091	-.025	.111	.022
HVLT-R delayed recall	-.083	.029	-.035	-.108	-.108	.104	.004
HVLT-R recognition	.131	.186	.163	.091	-.006	.131	.143
TMT A	-.047	-.034	-.046	-.093	<b>-.346**</b>	-.093	-.180
TMT B A <sup>c</sup>	-.009	.046	.107	.172	.035	.042	-.117
COWA	.001	.016	-.002	<b>-.213*</b>	-.191	-.084	-.198
Digit Span forward	-.048	-.002	.079	.047	-.098	-.130	-.158
Digit Span backward	.005	.077	.000	.001	-.203	-.143	-.115
Digit Symbol	-.166	-.096	<b>-.222*</b>	-.189	<b>-.288**</b>	-.211	<b>-.318**</b>
GP dominant hand	-.102	-.013	-.150	-.090	<b>-.227*</b>	-.114	-.179
GP non-dominant hand	-.106	-.035	<b>-.290**</b>	<b>-.235*</b>	<b>-.266*</b>	-.124	-.177

\*  $p \leq .05$ ; \*\*  $p \leq .01$ . <sup>a</sup> Raw subscale scores from the Multidimensional Fatigue Inventory (MFI) and the Hospital Anxiety and Depression Scale (HADS); higher scores indicate more symptoms. <sup>b</sup> Higher z scores reflect better performance. <sup>c</sup> TMT B|A: Trails B adjusted for sex, age, educational level and Trails A.