

# Cognitive Test Selector





# CANTAB Connect Test Selector

CANTAB Connect	Research Areas	CANTAB Tests	Cognitive Function	Input				Storage				Control				Social				
				Practice		Attention		Memory		Executive Function & Decision Making				Response inhibition		Emotion recognition				
				MOT	RTI	RVP	MTS	PAL	DMS	PRM	VRM	SWM	SSP	MTT	IED	SOC	OTS	CGT	SST	ERT
	General cognitive function			●	●	●						●								
	Addictive disorders					●						●						●	●	
	Alzheimer's Disease			●	●	●	●	●	●	●	●	●	●							
	Attention deficit disorders (ADHD & ADD)					●			●			●			●			●	●	
	Autism Spectrum Disorder			●			●	●				●		●		●				●
	Bipolar Disorder											●			●	●		●		●
	Depression & affective disorders					●	●	●		●		●				●	●		●	●
	Down's Syndrome			●	●									●	●					
	Epilepsy			●	●	●						●			●					
	Neuromuscular diseases			●	●	●	●	●				●	●				●			
	Obsessive Compulsive Disorder					●						●			●				●	
	Parkinson's Disease			●	●		●	●			●	●					●			
	Schizophrenia			●	●	●		●			●	●		●		●			●	
	Stroke & Cerebrovascular Disease			●	●			●				●								
	Traumatic Brain Injury			●	●			●				●			●		●			

CANTAB Tests can be used to measure brain function in all areas of research and are sensitive across all disease applications to measure the effect of treatments and interventions.

# CAMBRIDGE COGNITION

The Cognitive Test Selector provides an overview of our recommended CANTAB Tests panels for different research applications, and is designed to enable you to select the most appropriate cognitive tests. The Test Selector is for guidance purposes only. Please get in touch with us to discuss a test battery that meets your research needs. CANTAB is the world's most validated and comprehensive computerised cognitive assessment system. The language-independent, sensitive touchscreen tests have been helping researchers to collect high-quality data for 30 years.

## Key References

### **Alzheimer's Disease and Mild Cognitive Impairment (MCI) Due To Alzheimer's Disease**

Egerházi, A., Berecz, R., Bartók, E., & Degrelli, I. (2007). Automated Neuropsychological Test Battery (CANTAB) in mild cognitive impairment and in Alzheimer's disease. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 31(3), 746-751. Saunders, N., & Summers, M. (2011). Longitudinal deficits to attention, executive, and working memory in subtypes of mild cognitive impairment. *Neuropsychology*, 25(2), 237.

### **Attention Deficit Hyperactivity Disorder**

Chamberlain, S., et al. (2011). Translational approaches to frontostriatal dysfunction in attention-deficit/hyperactivity disorder using a computerized neuropsychological battery. *Biological psychiatry*, 69(12), 1192-1203. Gau, S., & Huang, W. (2014). Rapid visual information processing as a cognitive endophenotype of attention deficit hyperactivity disorder. *Psychological medicine*, 44(02), 435-446.

### **Autism**

Hughes, C., Russell, J., & Robbins, T. (1994). 'Evidence for Executive Dysfunction in Autism'. *Neuropsychologia* 32: 477-92. Kercood, S., Grskovic, J., Banda, D., & Begeske, J. (2014). Working memory and autism: A review of literature. *Research in Autism Spectrum Disorders*, 8, 1316-1332.

### **Depression**

Egerházi, A., et al. (2013). Automated neuropsychological test battery in depression-preliminary data. Rock, P., Roiser, J., Riedel, W. & Blackwell, A. (2013). Cognitive impairment in depression: a systematic review and meta-analysis. *Psychological Medicine*. Penton-Voak I., et al. (2018). Emotional recognition training modifies neural response to emotional faces but does not improve mood in healthy volunteers with high levels of depressive symptoms. *bioRxiv*, 10.1101/335042

### **Down's Syndrome**

Edgin, J., et al. (2010). Development and validation of the Arizona Cognitive Test Battery for Down syndrome. *Journal of Neurodevelopmental Disorders*, DOI 10.1007/s11689-010-9054-3. Visu-Petra, L., Benga, O., Tincas, I., & Miclea, M. (2007). Visual-spatial processing in children and adolescents with Down's syndrome: a computerized assessment of memory skills. *Journal of Intellectual Disability Research*, 51(12), 942-952.

### **Epilepsy**

Palade, S., & Benga, I. (2007). Neuropsychological impairments on the CANTAB Tests battery: case reports of children with frontal and temporal lobe epilepsy. *Cognition, Brain, Behavior*, 11(3), 539-552. Witt, J-A., Alpherts, W., & Helmstaedter, C. (2013). Computerized neuropsychological testing in epilepsy: Overview of available tools. *Seizure*, 22, 416-423.

## Cambridge Cognition

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### **Huntington's Disease**

Lange K., et al. (1995). Comparison of executive and visuospatial memory function in Huntington's disease and dementia of Alzheimer type matched for degree of dementia. *Journal of Neurology, Neurosurgery & Psychiatry*, 58, 598-606. Lawrence, A., et al. (1998). Evidence for specific cognitive deficits in preclinical Huntington's disease. *Brain* 121, 1329-1341.

### **Neuromuscular Disease / Multiple Sclerosis**

Foong, J., et al. (1997). Executive function in multiple sclerosis. The role of frontal lobe pathology. *Brain*, 120(1), 15-26. Roque, D., Teixeira, R., Zachi, E., & Ventura, D. (2011). The use of the Cambridge Neuropsychological Test Automated Battery (CANTAB) in neuropsychological assessment: application in Brazilian research with control children and adults with neurological disorders. *Psychology & Neuroscience*, 4(2), 255-265.

### **Obsessive Compulsive Disorder**

Abramovitch, A., Abramowitz, J., & Mittelman, A. (2013). The neuropsychology of adult obsessive-compulsive disorder: A meta-analysis. *Clinical Psychology Review*, 33, 1163-1171. Bersani, G., et al. (2013). Olfactory identification deficits and associated response inhibition in obsessive-compulsive disorder: On the scent of the orbitofronto-striatal model. *Biological Psychiatry*, 73(1), 208-214.

### **Parkinson's Disease**

Lange, K., et al. (1992). L-dopa withdrawal in Parkinson's disease selectively impairs cognitive performance in tests sensitive to frontal lobe dysfunction. *Psychopharmacology*, 107(2-3), 394-404. Riekkinen, M., et al. (1998). Reduction of noradrenaline impairs attention and dopamine depletion slows responses in Parkinson's disease. *European Journal of Neuroscience*, 10, 1449-1455.

### **Schizophrenia**

Bartók, E., Berecz, R., Glaub, T., & Degrelli, I. (2005). Cognitive functions in psychototic patients. *Progress in Neuro-Psychopharmacology and Biological Psychiatry*, 29(4), 621-625. Scorielis, L., et al. (2011). Effects of Modafinil on Emotional Processing in First Episode Psychosis. *Biological Psychiatry*, 69, 457-464.

### **Stroke and Cerebrovascular disease**

Jaillard, A., et al. (2009). Hidden Dysfunctioning in Subacute Stroke. *Stroke*, 40, 2473-2479. Swainson, R., & Robbins, T. (2001). Rule-abstraction deficits following a basal ganglia lesion. *Neurocase*, 7, 433-444.

### **Traumatic Brain Injury**

Salmond, C., et al. (2005). Cognitive sequelae of head injury: involvement of basal forebrain and associated structures. *Brain*, 128(1), 189-200. Starr, A., Herron, K., Hayward, C., & Montaldi, D. (2006). Are mild head injuries as mild as we think? Neurobehavioral concomitants of chronic post-concussion syndrome. *BMC neurology*, 6(1), 7.