

Neglect Severity is influenced by motion – Evidence from a Touchscreen Based Cancellation Task

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Abstract

Neglect is commonly defined as a deficit to orient attention to the contralesional side of brain damage. In a clinical setting, the severity of neglect is usually measured by paper-pencil procedures, such as line bisection and cancellation tasks (i.e. bells test). All these tasks thus represent static procedures. From clinical observations it is known that the severity of neglect might be influenced by motion. However, the performance behavior of neglect patients in dynamic search tasks compared to static ones is still unknown. Therefore, 36 patients with left spatial neglect after right hemisphere damage and 25 healthy control subjects performed simple cancellation tasks on a touchscreen monitor. Several dynamic conditions (dynamic right, dynamic left, dynamic bilateral) were conducted and subsequently compared with a static condition. The results indicate that left sided moving stimuli tend to reduce neglect severity as compared to static stimuli. On the other hand, moving stimuli on the right side of the screen increased neglect severity. Furthermore, moving stimuli on the whole screen deteriorate neglect as well. These results provide implications for new diagnostic and therapeutic settings regarding the consideration and implementation of dynamic components in the training of neglect patients.