



Review

# Dissociation of egocentric and allocentric coding of space in visual search after right middle cerebral artery stroke

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## Abstract

Spatial representations rely on different frames of reference. Patients with unilateral neglect may behave as suffering from either egocentric or allocentric deficiency. The neural substrates representing these reference frames are still under discussion. Here we used a visual search paradigm to distinguish between egocentric and allocentric deficits in patients with right hemisphere cortical lesions. An attention demanding search task served to divide patients according to egocentric versus allocentric deficits. The results indicate that egocentric impairment was associated with damage in premotor cortex involving the frontal eye fields. Allocentric impairment on the other hand was linked to lesions in more ventral regions near the parahippocampal gyrus (PHG).

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**Keywords:** Frame of reference; Neglect; Stroke; Parahippocampal region; Premotor cortex

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