

Movements of Eye in Alzheimer's Disease

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Abstract (600)

A growing body of literature has investigated changes in eye movements as a result of Alzheimer's disease (AD). When compared to healthy, age-matched controls, patients display a number of remarkable alterations to oculomotor function and viewing behavior. In this article, we review AD-related changes to fundamental eye movements, such as saccades and smooth pursuit motion, in addition to changes to eye movement patterns

during more complex tasks like visual search and scene exploration. We discuss the cognitive mechanisms that underlie these changes and consider the clinical significance of eye movement behavior, with a focus on eye movements in mild cognitive impairment. We conclude with directions for future research.

Importance of research (200)

Alzheimer's disease alters fundamental ocular functions. In this section, we review how the disease changes saccades, smooth pursuit, and pupillary responses. Saccades are the fast, darting movements of the eyes that shift gaze from one spatial location to another, and can either be directed towards a target (prosaccade) or away from a target (antisaccade). Smooth

pursuit occurs when the eyes continuously follow or track a moving target. Pupillary responses are the dilations and constrictions of the pupils that are controlled by the autonomic nervous system but are also affected by the central nervous system.

Biography (200)

Dr. Alex received his PhD in neuropsychology from the University of Southern Mississippi in 2005 and completed his post-doctoral training in cognitive neuroscience at Harvard Medical School and Boston University. Prior to joining the Department of Neurosurgery at UofL in the Fall of 2017, Dr. Alex was an Assistant Professor of Neurology at Vanderbilt University. A published author of over 30 peer-reviewed papers and book chapters investigating brain mechanisms underlying visual attention, perception, and memory, the majority of his research funding has focused on how these cognitive processes are affected by normal and pathologic aging.

About Institution(200)

The Vanderbilt University Medical Center (VUMC) is a medical provider with multiple hospitals in Nashville, Tennessee, as well as clinics and facilities throughout Middle Tennessee. VUMC is

an independent non-profit organization, but maintains academic affiliations with Vanderbilt University.



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