



FENS Forum 2010 - Amsterdam

- Posters: to be on display from 8:00 to 13:15 in the morning and from 13:30 to 18:45 in the afternoon. Poster sessions run from 09:30 to 13:15 in the morning and from 13:30 to 17:30 in the afternoon. A one hour time block is dedicated to discussion with the authors (authors should be in attendance at their posters as from the time indicated.)
- For other sessions, time indicates the beginning and end of the sessions.

First author Gutierrez, Raquel (poster)

Poster board F8 - Tue 06/07/2010, 11:15 - Hall 1

Session 145 - Human cognition 4

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Title Benefits of visual covert attention in the elderly are focus on low contrast and most eccentric stimuli

Text Cognitive functions deteriorate with aging, particularly after the sixth decade. Visual covert attention (CA) is a cognitive process that benefits visual perception by attending stimuli presented peripherally to fixation point. We have recently developed a method suitable to study covert attention that we have applied now to study how aging influences the effects of covert attention in detection of visual stimuli. In young (20 individuals, 50% males, 19.05 years of mean) and elder subjects (20 individuals, 50% males, 66.4 years of mean), with normal vision, we measured response times to stimuli (grey circles of 0.5° of diameter) showed at random, in 3 eccentricities with respect of fixation point (2.15, 3.83 and 5.53°), with 3 levels of contrast (6, 16 and 78%) and presented at the polar coordinate of 90°. To induce CA, an arrow was presented (100 ms) indicating the polar coordinate where stimuli were going to appear. Elder subjects showed longer response times to all stimuli. This increase was significant ($p < 0.001$) with low contrast stimuli (6%). In young subjects covert attention significantly ($p < 0.001$) decreases response times to stimuli presented in all eccentricities. In contrast, significant ($p < 0.001$) decrease of response times by covert attention in the elderly was only found with stimuli of 3.83 and 5.53° of eccentricity. The present data show first that normal aging mainly delay visual detection of stimuli of low contrast and second, focus the benefits of covert attention to stimuli of high eccentricity. This, shows that aging mainly favour attention to those stimuli that are more difficult to detect. In this research, the Declaration of Helsinki was followed and informed consent was obtained from all subjects.

Theme F - Cognition and behaviour
Human cognition and behaviour - Attention