

Title: The effect of stimulus type and size on the quality of eye movement data in patients with infantile nystagmus

Asma A. A. Zahidi, J. Margaret Woodhouse and Jonathan T. Erichsen
School of Optometry and Vision Sciences, Cardiff University, CF24 4HQ United Kingdom

One of the challenges of performing eye movement recording (EMR) in young children is maintaining their attention while performing the visual tasks. Thus, the type of stimulus used during the EMR can play an important role in obtaining good quality eye position data. Traditional stimuli used in eye movement recording in adults are geometric shapes, such as a cross or a black dot, which are usually small in size. The purpose of using stimuli with such characteristics is to reduce the variability of eye position in the EMR data. However, these types of stimulus have few details and do not grab the attention of very young children. For these reasons, it has been suggested that a larger and more complex image might be better at attracting the child's attention. Increasing the size and amount of details of a stimulus, however, may adversely affect the quality of data obtained in an EMR of patients with infantile nystagmus (IN). Therefore, the present experiment aims to compare the quality of EMR data of patients with IN using two different types of stimulus: animated and non-animated. Five adults with IN performed the eye movement recording. The stimulus used were 10 cartoon images of animated and non-animated animals, respectively. Each stimulus was presented in two different sizes (2º and 4º) at the center of a computer screen for 3 seconds. The quality of the data in terms of the amount of noise for each stimulus was then assessed. The findings obtained from this experiment enable us to choose the stimulus type and size that is most suitable during eye movement recording in children with IN of different age groups.

Biography

Asma is currently in the second year of her PhD at the School of Optometry and Vision Sciences, Cardiff University, under the supervision of Dr J. Margaret Woodhouse and Porfessor Jonathan T. Erichsen. Her research interests are infantile nystagmus, paediatric optometry and visual impairment.

Presenting author details
Full name: Asma A. A. Zahidi
Contact number: +44 (0) 29 2087 0556
Twitter account: https://twitter.com/asmazahidi
Linked In account:
Session name/ number:
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