
*Thirteenth European Conference
on Eye Movements ECEM13*



Abstracts

Editors:
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PA-161**Monday 14:00**

Three dimensional Hess screen test before and after botulinum toxin injection in horizontal strabismus.

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Background: Botulinum toxin injections (BTI) in extraocular muscles are being performed to reduce a squint in gaze straight ahead. Material and Methods: 2 patients with right abducens nerve palsy and 1 patient with decompensated left microesotropia were measured 3-dimensionally (torsional, vertical, horizontal) with the search coil method immediately before and 2 to 3 times within 1 week following an EMG-guided BTI into a medial rectus muscle. Results: In all patients mean horizontal gaze deviation decreased and horizontal incomitance increased beginning from day one. Mean vertical deviation remained constant. Torsional incomitance remained unchanged. Conclusions: BTI created a strong paresis. Patients benefited from a reduced mean horizontal deviation at the cost of more diplopia in eccentric gaze positions. The three dimensional Hess Screen Test is an excellent method to analyze the effects of BTI over time.

PA-162**Monday 14:00**

Congenital nystagmus as non-linear adaptive oscillations.

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Congenital Nystagmus (CN) is a pathological involuntary oscillation of the eyes with an onset within the first few months of life, with an incidence of about 1:3000. It is a life-long oculomotor disorder that cannot be explained by any underlying neurological abnormality which might compromise adaptive mechanisms. There is no cure, and CN has so far defied explanation in spite of numerous attempts to model the disorder. In this theoretical study we show that these eye oscillations could develop as an adaptive response to maximise visual contrast with poor foveal function in the infant visuomotor system, at a time of peak neural plasticity. We propose that CN is a normal developmental adaptive response to an abnormal congenital sensory input. This can explain why CN does not emerge later in life and why CN is so refractory to treatment. It also implies that any therapeutic intervention would need to be very early in life.