

## Peak Velocity of Saccades in Alcohol-dependent Patients

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### Aims

The aim of this study was to assess the differences in peak velocity of eye movements between alcohol-dependent and healthy controls.

### Materials and methods

#### *Participants*

Ninety-nine alcohol dependent patients were examined. Patients with oculomotor impairment were excluded. Thirty-eight healthy controls were matched to the affected cohort according to demographic characteristics.

#### *Assessment*

In this study we used the Saccadometer Advanced System (Advanced Clinical Instrumentation, Cambridge, UK). The eye movement measurements are automated and synchronized with stimuli presentation. The person conducting the experiment needs to ensure that the sensor is placed correctly and to give instructions to the test subject. The Saccadometer System does all other measurements and recordings of test data automatically. The study analyzed the peak velocity of eye movements of amplitude of 10 degrees and the deviations in peak velocity.

### Results

There was a statistically significant higher mean peak velocity of saccadic eye movements in alcohol-dependent individuals ( $440.82 \pm 86.33 \text{deg/s}$ ) when compared to healthy controls ( $411.39 \pm 86.33 \text{deg/s}$ ).

Greater asymmetry of mean peak velocity between right-sided and left-sided saccades was observed in the affected cohort when compared to the healthy test subjects.

There was a higher mean right-sided peak velocity ( $462.73 \pm 118.54 \text{deg/s}$ ) in the alcohol dependent subjects when compared to healthy controls ( $414.68 \pm 73.79 \text{deg/s}$ ) and also a higher mean of left-sided peak velocity ( $418.82 \pm 79.83 \text{deg/s}$ ) when compared to healthy controls ( $405.13 \pm 49.50 \text{deg/s}$ ).

### Conclusion

It was found that alcohol dependence is associated with differences and significant increased asymmetry of peak velocity of eye movements.