# P-17 - COMPLETE BLUNTING OF PROCEDURAL LEARNING IN ALCOHOL-DEPENDENT (AD) SUBJECTS: A STUDY WITH ANTICIPATORY EYE MOVEMENTS

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**Introduction:** Learning involves setting up predictions in identical situations. The dopaminergic striato-frontocortical loop plays a major role in setting up these predictions. The activity of the loop may be assessed by measuring the anticipation of eye movements, following a target on a screen, using an eye tracker. We have recently observed that deficits in anticipation were correlated with scores of impulsivity on the UPPS scale.
**Objectives:** Measure learning abilities in AD subjects, where PET studies have shown a decrease in striatal dopaminergic activity.
**Aims:** Test the capacity of AD and control subjects on the anticipatory eye movements. Methods : 24 AD subjects were tested at onset and end of a 3 weeks detox and compared with 24 age and gender matched controls also tested twice, in an occulomotor task.
**Results:** Control subjects displayed higher velocity than AD subjects in the period of anticipation of the target on the screen. Furthermore, control subjects displayed improvement in the velocity and amplitude of this anticipatory eye movement, suggesting the existence of learning abilities supported by the striato-frontocortical loop. On the contrary, no improvement occured in AD subjects even after detox, suggesting a blunting of the learning abilities of these subjects.
**Conclusions:** The striato-fronto cortical loops that probably plays a role in the learning of the addiction to alcohol in AD subjects is no longer able to support learning processes, which may explain the difficulty of these subjects to unlearn the addiction.



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