

## EFFECTS OF ALCOHOL HANGOVER ON DRIVING PERFORMANCE

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**Introduction:** Alcohol hangover is the most commonly experienced next day consequence of heavy drinking. The symptoms experienced during this post-intoxication state develop when blood alcohol concentration (BAC) returns to zero. The feeling of general misery can persist up to 24 h and can significantly affect planned activities and cognitive functioning.

**Objective:** To examine the effects of alcohol hangover on driving performance.

**Methods:** In N=47 healthy volunteers, driving performance was tested the morning following heavy drinking (alcohol hangover) and on a control day (no alcohol). Subjects performed a standardized 100-km highway driving test in the STISIM driving simulator. Primary outcome measure was the Standard Deviation of Lateral Position (SDLP), i.e. the weaving of the car. In addition, self-reported driving quality and driving style measures were scored.

**Results:** Driving performance was significantly worse during alcohol hangover ( $\Delta$ SDLP = +1.85 cm;  $p=0.005$ ). Driving impairment during alcohol hangover was supported by subjective measures. During alcohol hangover, driving quality was rated as significantly worse ( $p=0.0001$ ), less safe, less considerate, less predictable, and less responsible ( $p=0.001$ ). Subject reported being significantly more tensed during hangover and more effort was needed to perform the driving test ( $p=0.001$ ).

**Conclusion:** Driving is significantly impaired during alcohol hangover. The magnitude of driving impairment is higher than that observed after administering alcohol to achieve a BAC of 0.05% ( $\Delta$ SDLP = +1.7 cm), i.e. the legal limit for driving in many countries.