

Tranzinfo Hot Topic

Number 11 2007

Driver Impairment

A selection of recent publications and resources on driver impairment issues - including drug, alcohol and human fatigue as factors in land, air and marine safety.

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Current as at 2007. Please contact your nearest transport library if you are looking for more recently published items on this topic.

1. A review of driving risks and impairments associated with attention-deficit/hyperactivity disorder and the effects of stimulant medication on driving performance

Barkley RA and Cox D
Journal of Safety Research, 2007
Volume 38, Issue 1, pages 113-128

Examination of driver impairment in relation to a specific medical condition, including issues relating to the effects of prescription pharmaceuticals on driving ability.

2. Accidents and incidents involving alcohol and drugs in Australian civil aviation: 1 January 1975 to 31 March 2006

Newman DG
Australian Transport Safety Bureau, Canberra, Australia, 2006

A review of drug and alcohol-related incidents in the civil air transport sector in Australia over three decades, finding "that the prevalence of drug and alcohol-related accidents and incidents in Australian civil aviation is very low, but that the related accident and fatality rates are high".

[Click here](#)

3. Alcohol-impaired driving and its consequences in the United States: the past 25 years

Williams AF
Journal of Safety Research, 2007
Volume 37, Issue 2, pages 123-138

As the title suggests, this paper examines progress in drink driving rate reduction in the United States over two and a half decades, including the influence that non-government organisations have had, and continue to have, in raising awareness of the issue.

4. Antidepressants and driving ability: results from a clinical study

Brunnauer A, Laux G, Geiger E, Soyka M and Moller HJ
The Journal of Clinical Psychiatry, 2006
Volume 67, Issue 11, pages 1776-1781

Examination of psychiatric inpatient psychomotor performance following antidepressant medication consumption and before discharge to outpatient programs. Findings included that 16% of the studied sample were unfit to drive and over 60% deemed to have a questionable fitness to drive level.

5. Concentrations of scheduled prescription drugs in blood of impaired drivers: considerations for interpreting the results.

Jones AW, Holmgren A, Kugelberg, FC
Therapeutic Drug Monitoring, 2007
Volume 29, Issue 2, pages 248-260

Analysis of data collected in Sweden on the level of prescribed pharmaceuticals detected in the blood of drivers, concluding that "the concentrations of many commonly used sedatives and hypnotics exceeded the accepted therapeutic limits, which gives an indication of the abuse potential of these types of medications".

6. Demands on scientific studies in different fields of forensic medicine and forensic sciences: Traffic Medicine – impaired driver: alcohol, drugs, diseases

Berghaus G, Ramaekers JG and Drummer OH
Forensic Science International, 2007
Volume 165, Issues 2-3 (2007) pages 233-237

Paper examining issues connected with research methods and evidence levels in the field of impaired driving, discussing both experimental and epidemiological approaches.

7. Driving while impaired

Brick J
Rutgers The State University of New Jersey, Center of Alcohol Studies, New Jersey, USA

Fact sheet on alcohol and drug impairment of drivers, including statistics on prevalence and demographics and a discussion of risk factors and countermeasures.

[Click here](#)

8. Driving under the influence of drugs - evaluation of analytical data of drugs in oral fluid, serum and urine, and correlation with impairment symptoms

Toennes S, Kauert G, Steinmeyer S and Moeller M
Forensic Science International, 2005
Volume 152, Issues 2-3, pages 149-155

This study is an evaluation of impairment level measurement methods, namely the use of oral fluid and urine samples. It assessed the accuracy of both as predictors of blood samples which tested positive for the presence of illicit drugs and observed impairment symptoms.

9. Hardcore drinking drivers and other contributors to the alcohol-impaired driving problem: need for a comprehensive approach

Williams AF, McCartt AT and Ferguson SA
Traffic Injury Prevention, 2007
Volume 8, Issue 1, pages 1-10

Review of the relevant literature in an attempt to understand the hardcore drinking driver concept in the context of the alcohol-impaired driving problem, and to recommend countermeasures.

10. IMMORTAL: Impaired Motorists, Methods of Roadside Testing and Assessment for Licensing.

IMMORTAL project team, 2005

Sponsored by the European Commission and coordinated by the Kuratorium für Verkehrsicherheit in Austria, the IMMORTAL project researched "the accident risk associated with different forms of driver impairment and the identification of 'tolerance levels' applied to licensing assessment and roadside impairment testing (including drug screening)". Findings from the completed project are all available from the 'Reports' section of the website.

[Click here](#)

11. Impairment related to blood amphetamine and/or methamphetamine concentrations in suspected drugged drivers

Gustavsen I, Mørland J and Bramness JG
Accident Analysis and Prevention, 2006
Volume 38, Issue 3, pages 490-495

Norwegian study examining relationships between amphetamine/methamphetamine concentrations and driver impairment, concluding "Despite the performance enhancing qualities of amphetamines demonstrated in some low dose laboratory experiments; this study revealed a positive relationship between blood amphetamines concentration and traffic related impairment".

12. Managing driver fatigue: quantifying real world performance impairment

Baulk SD, Biggs S, van den Heuvel C, Reid K and Dawson D
Australian Transport Safety Bureau, Canberra, Australia, 2006

Australian laboratory study examining the effects of fatigue on visual reaction time and simulated driving performance, including study of the perception of fatigue levels and influence of gender on fatigue and performance levels.

13. Psychoactive drugs and pilot performance: a comparison of nicotine, donepezil, and alcohol effects

Mumenthaler M, Yesavage Y, Taylor J, O'Hara R, Friedman L, Lee H and Kraemer H
Neuropsychopharmacology, 2003
Volume 28, Issue 7, pages 1366-1373

Report on randomised controlled trials of drug and alcohol effects on pilot performance using a flight simulator.

14. Shift work, sleepiness and long distance driving

Di Milia, L
Transportation Research Part F: Traffic Psychology and Behaviour, 2006
Volume 9, Issue 4, pages 278-285

Analysis of the driving behaviour and fatigue levels of shift and non-shift workers in the United States, using data collected in structured interviews.

15. Strategy to reduce impaired driving (STRID): STRID monitoring report: progress in 2004 and 2005

Traffic Injury Research Foundation (TIRF), Ottawa, Canada, 2006

The Canadian Council of Motor Transport Administrators commissioned this review of enforcement, education and legislative policy initiatives introduced at federal and provincial level in Canada to reduce impaired driving rates.

[Click here](#)

16. The nation's top strategies to stop impaired driving

National Highway Traffic Safety Administration, Washington DC, USA, 2007

Document from the United States outlining the NHTSA's policy to concentrate their impaired driving countermeasure efforts in four main areas – high visibility enforcement, prosecution support, medical screening and interventions for alcohol abuse and working towards the enactment of laws making non-use of seat belts a primary offence in all States.

[Click here](#)

17. Variations of alcohol impairment in different types, causes and contexts of injuries: results of emergency room studies from 16 countries

Macdonald S, Cherpitel CJ, DeSouza A, Stockwell T, Borges G and Giesbrecht N
Accident Analysis and Prevention, 2006
Volume 38, Issue 6, pages 1107-1112

International comparison of data from over 40 published studies on alcohol consumption, injury (all causes including vehicle related) and hospital attendance. Findings include that "patients with alcohol impairment were significantly more likely to be involved in violence than any other cause (i.e., vehicle, falling, poisoning or burns)".

18. What shall we do with the drunken sailor? Effects of alcohol on the performance of ship operators

Ritz-Timme S, Thome M, Gruetters G, Gruetters M, Reichelt JA, Bilzer N and Kaatsch H-J
Forensic Science International, 2006
Volume 156, Issue 1, pages 16-22

German study of alcohol impairment levels and operating performance of ship captains using a simulator, with findings similar to studies of the effects of alcohol on the driving of other forms of transport.

19. Worldwide trends in alcohol and drug impaired driving

Sweedler B, Biecheler M, Laurell H, Kroj G, Lerner M, Mathijssen M, Mayhew D and Tunbridge R
Traffic Injury Prevention, 2004
Volume 5, Issue 3, pages 175-184

Analysis of impaired driving trends in a range of countries over the past two decades. Includes a discussion on the direction of future policy and countermeasure initiatives.

This alert was produced by Anna Johnson and Tony Schnyder of the CARRS-Q Resource Centre, Queensland University of Technology, a member of the Tranzinfo network which includes the following libraries:

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