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Assessing fitness to drive under long-term treatment with opioid analgesics

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ECTRI
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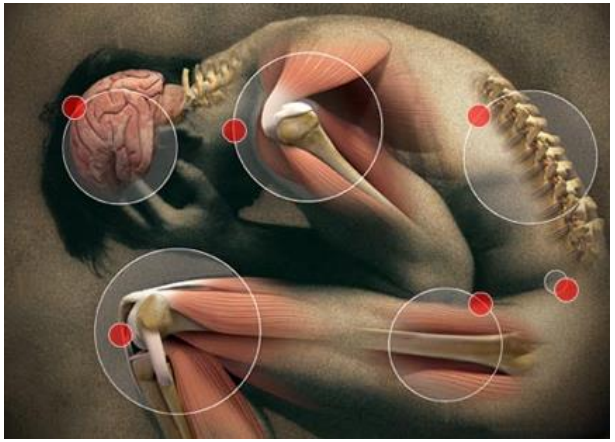
FERSI
Road Safety Research

Objective

Assess actual driving performance of

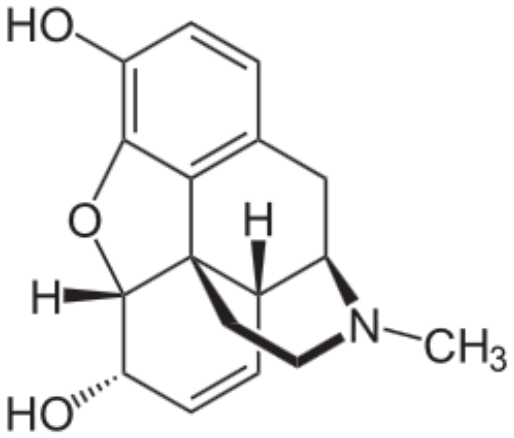
- patients with chronic, non-cancer pain,
- under long term-treatment with
- opioid analgesics.



Chronic pain

- Pain that persists > 3 month
- High prevalence (Nickel & Raspe, 2001)
- Prevalence is increasing as population age increases
- Impairment of cognitive skills
- Increased accident risk

Opioids



- Class of synthetic drugs that act like opium (e.g. morphine)
- Usually prescribed to relief severe acute or cancer pain
- Long-term treatment of chronic non-cancer pain has dramatically increased
  (Schubert, Ihle & Sabatowski, 2013; Portenoy, 2000)
- The sedating side effects of opioids may impair fitness to drive
  (Bernhoft et al., 2012; Drummer et al., 2004; Movig et al., 2004)

Current findings

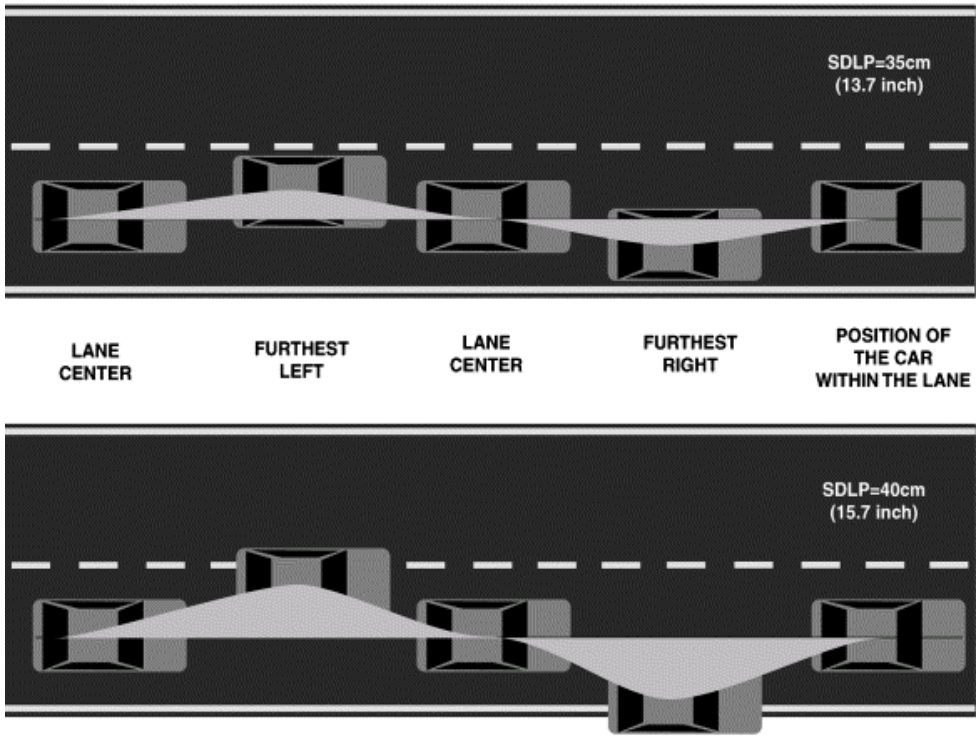
- Several studies examined driving ability under long-term opioid therapy
  (e.g. Fishbain et al., 2003; Kendall et al., 2010; Mailis-Gagnon et al., 2012)
- Mostly skills related to driving were assessed instead of driving performance
- Inconclusive results

Sample

	Patients	Controls
N	20	19
Age [years]	54 (8.91)	43 (11.07)
Duration of pain [years]	12.5 (5 - 27)	-
Musculoskeletal pain	16	-
Other pain	4	-
Fentanyl	5	-
Buprenorphine	1	-
Oxycodone	5	-
Hydromorphone	6	-
Morphinesulfate	3	-

Start [hh:mm]	End [hh:mm]	Patients	Controls
08:30	09:00	medical screening	
09:00	10:30	transfer to Maastricht	
11:00	11:45	familiarization drive	
11:45	12:15	lunch break	administration of alcohol / placebo
12:15	12:30	approaching the starting point of the road tracking test	
12:30	13:30	**road tracking test**	
13:30	13:45	returning to university building	
13:45	14:00	break	administration of alcohol / placebo
14:00	14:05	approaching the starting point of the car-following test	
14:05	14:45	**car-following test**	
14:45	15:00	returning to university building	
15:00	15:10	break	
15:10	16:45	transfer to Cologne	

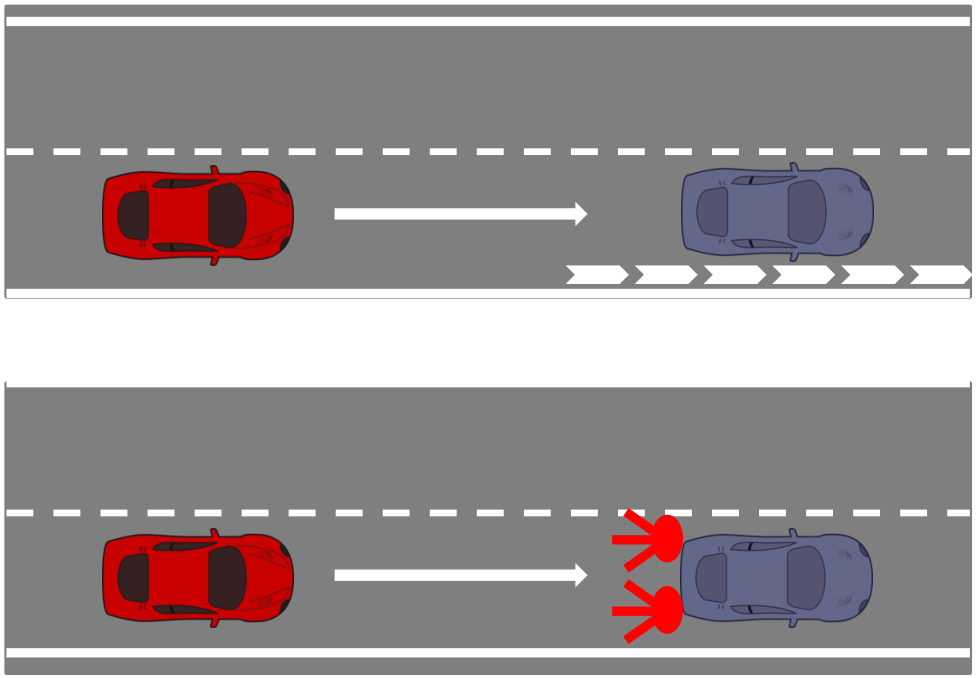
Road-tracking test (O'Hanlon, 1984)



(Verster, Volkerts, & Verbaten, 2002, p. 263)

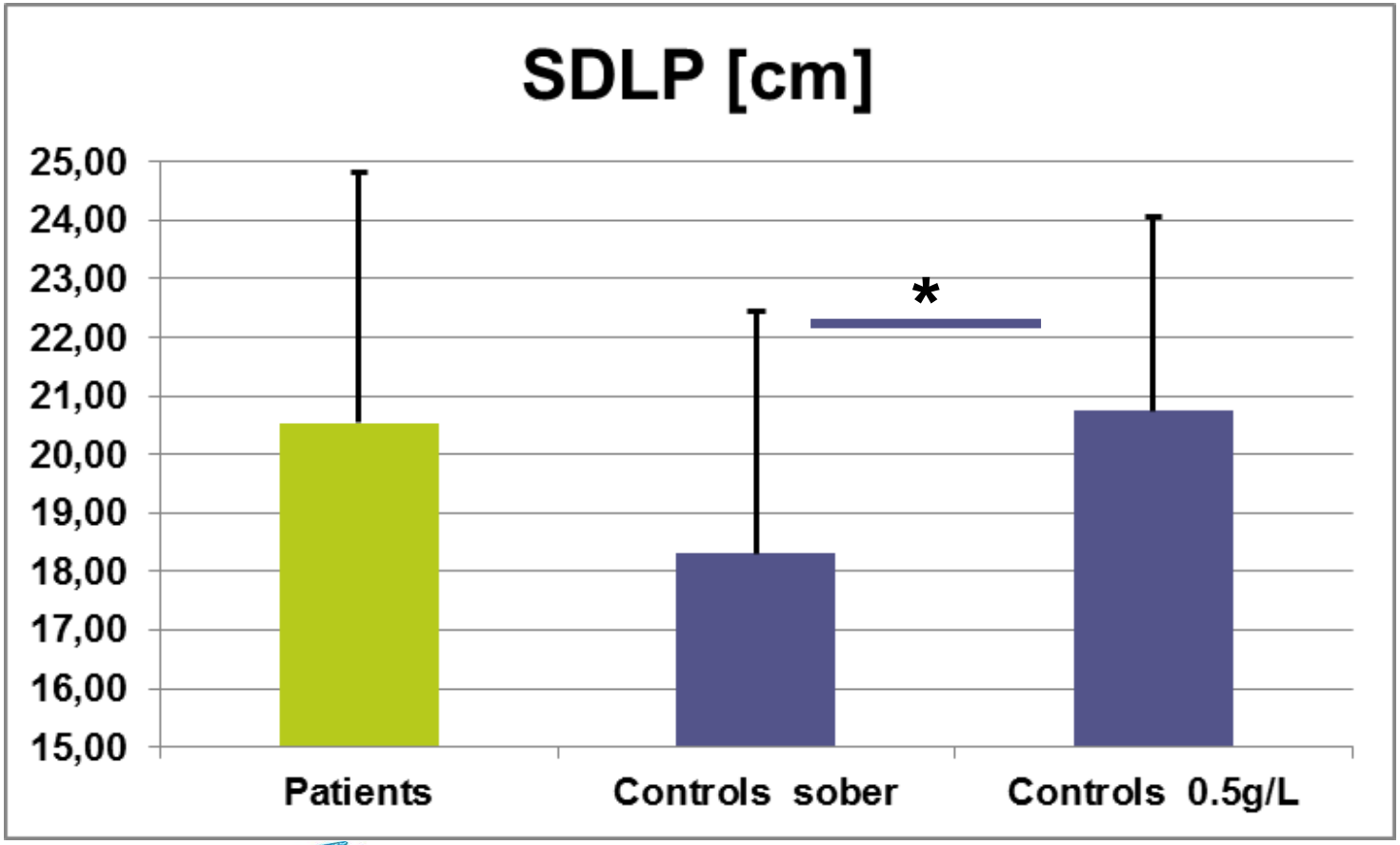
- Duration: 1h
- Distance: 100km
- Speed: 95km/h
- primary outcome measure: SDLP (weaving)

Car-following test (Ramaekers, Muntjewerff, & O'Hanlon, 1995)



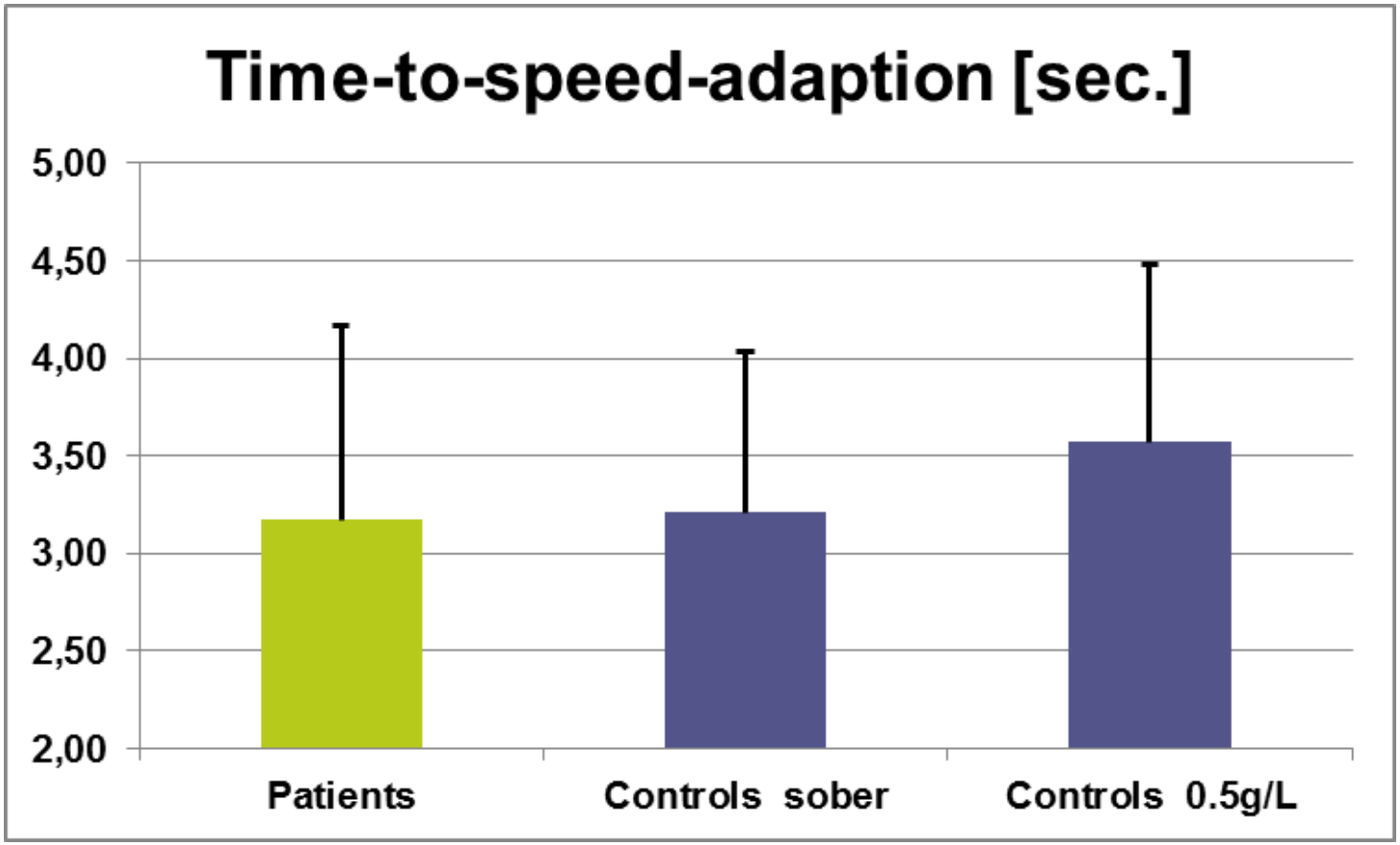
- Two cars involved
- Leading car changes speed
- Brake-events
- Primary outcome measures:
  - Time-to-speed adaption
  - Reaction time

Results: Road-tracking test

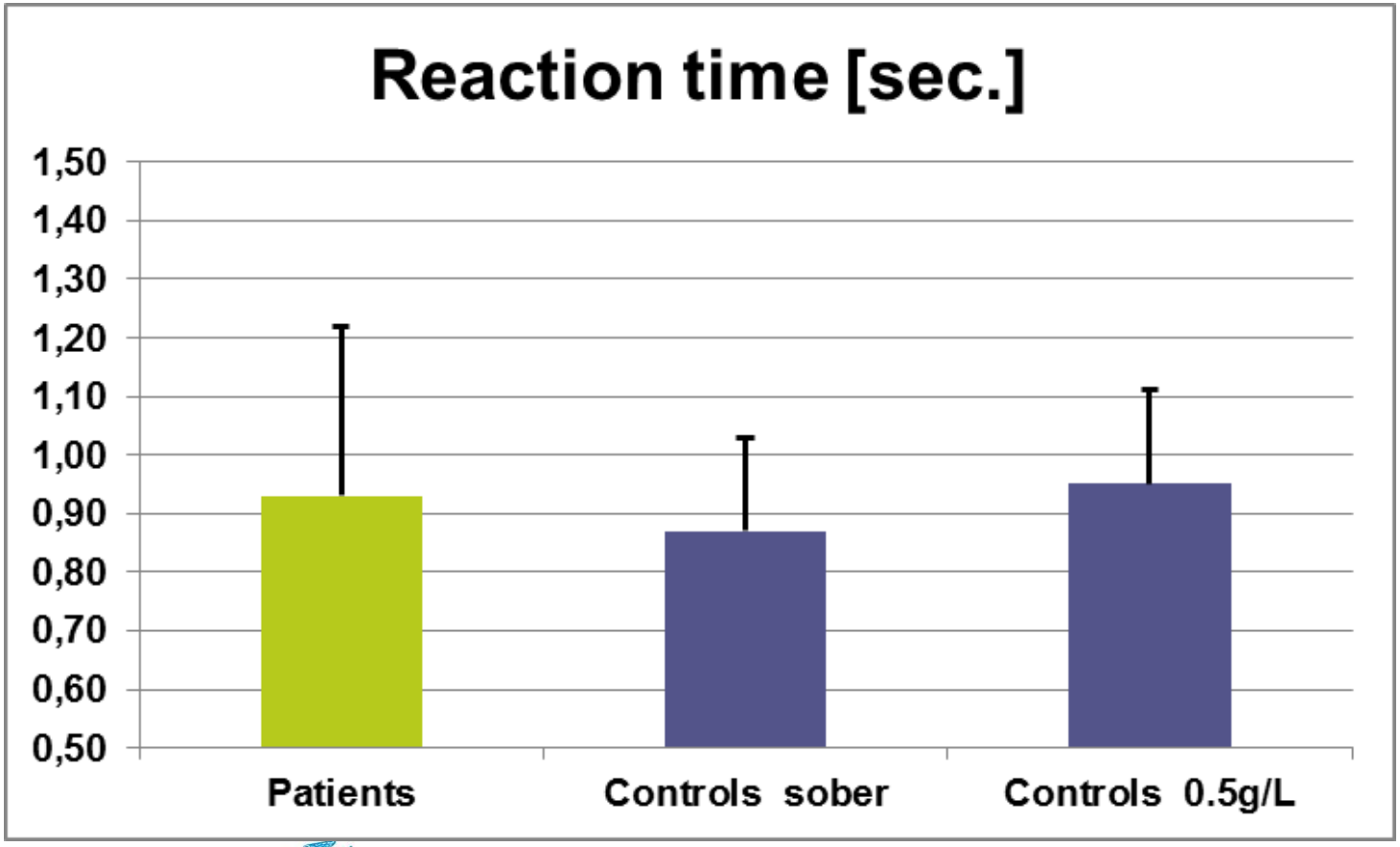


*p ≤ .05

Results: Car-following test (1)



Results: Car-following test (2)



Conclusions

- Alcohol impaired SDLP but not performance measures of the car-following test
- Long-term opioid therapy for chronic pain did not impair SDLP
- Low sample size
- Many patients refused to participate
- At least a subset of patients on long-term opioid therapy is fit to drive

Thank you for your attention!

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