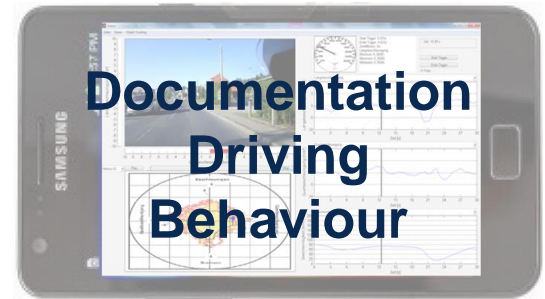
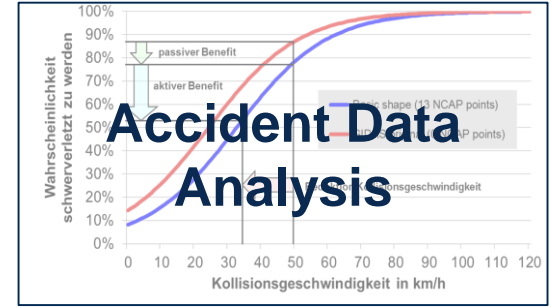


SEAT BELT REMINDERS - A LIFE-SAVING TECHNOLOGY

European Parliament, Brussels
13 October 2015



Documentation Real Traffic Accidents German In-Depth Accident Study (GIDAS)

detailed documentation of 3600 parameters per accident on average on the spot
information of environment, vehicles and participant including all medical issues
complete anonymous data processing, representative for Germany
about 150 pictures of the accident on average
reconstruction of every accident (e.g. initial speed, loads, preventability)



Documented traffic accidents in GIDAS

GIDAS – Effective 30.06.2015

27.051 completely documented & reconstructed accidents

48.612
vehicles

67.363
persons

35.761
injured persons

48.612
reconstructions

31.867
passenger cars

45.394
car occupants

94.833
single injuries

108.590 recon-
struction events

3.170
trucks

5.536 truck/bus
tram occupants

26.348 slightly
injured persons

42.067 vehicle-to-
vehicle collisions

1.035
busses & trams

3.615
pedestrians

8.725 seriously
injured persons

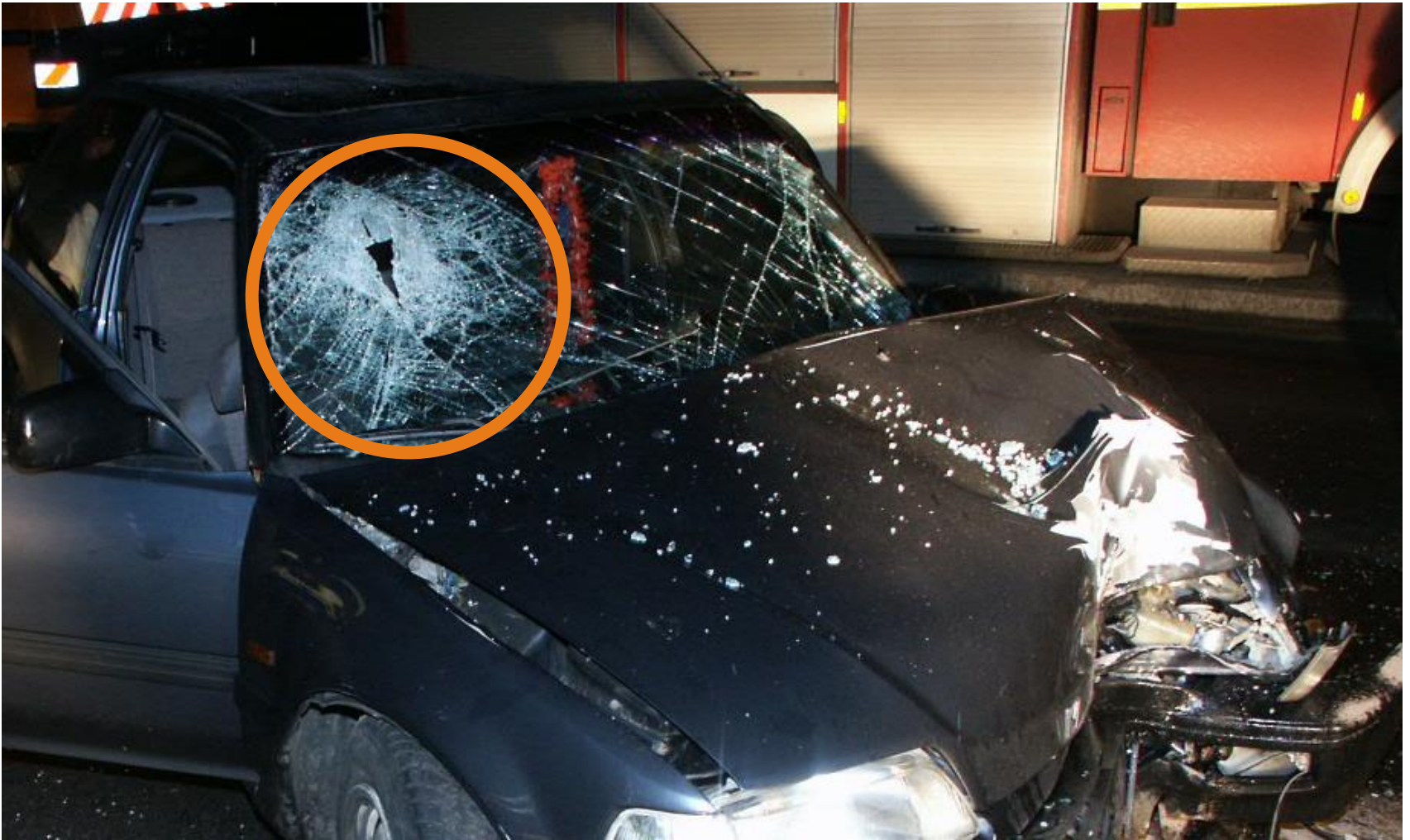
13.324 vehicle-to-
object collisions

12.409
two-wheeler

12.818
cyclists

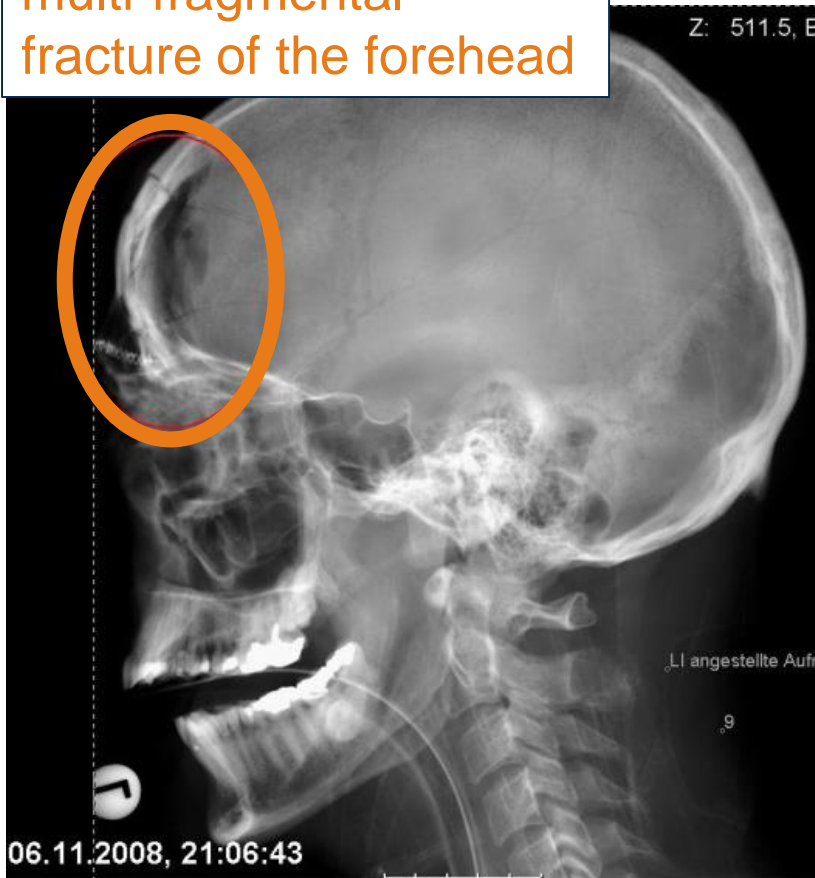
688 fatally
injured persons

Examples for unbelted occupants – head impact

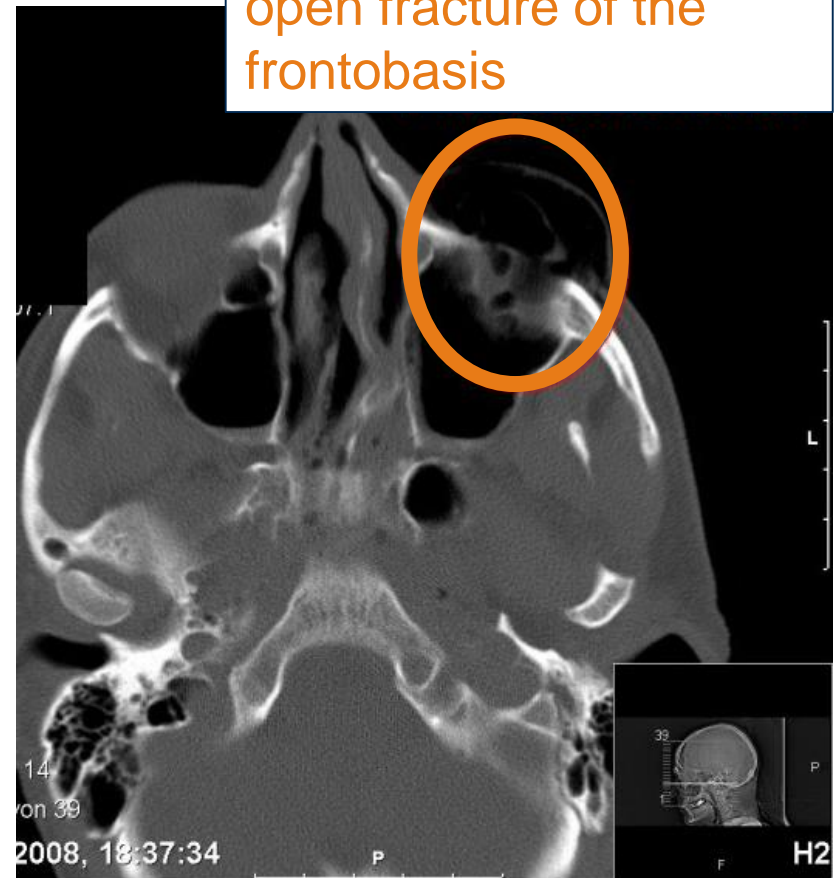


Examples for unbelted occupants – consequences

multi-fragmental fracture of the forehead



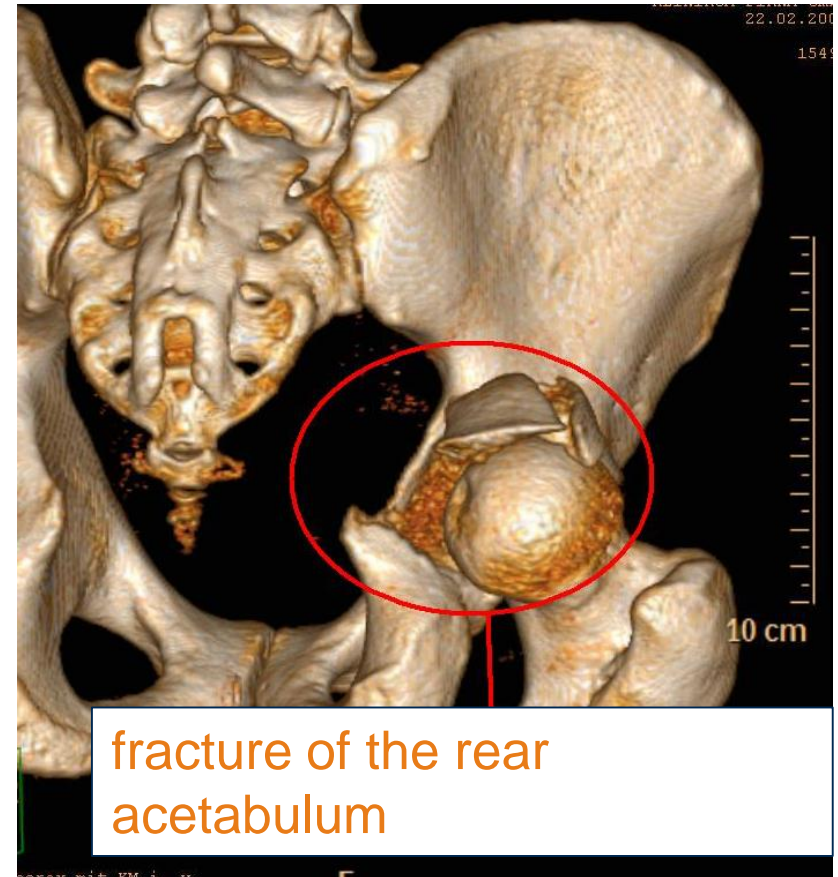
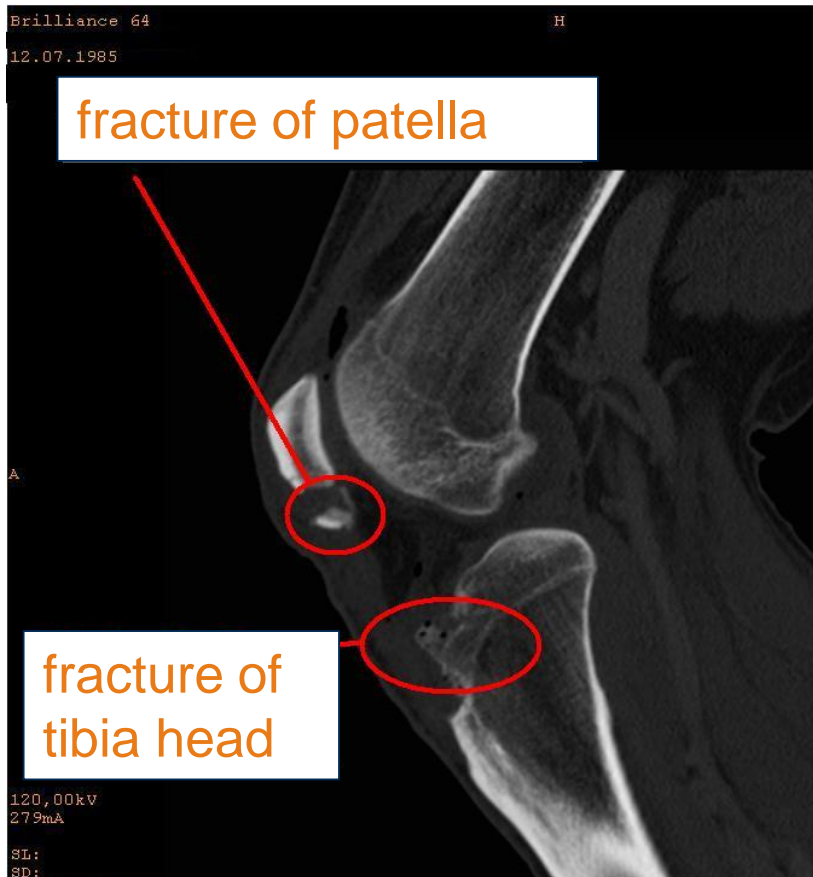
open fracture of the frontobasis



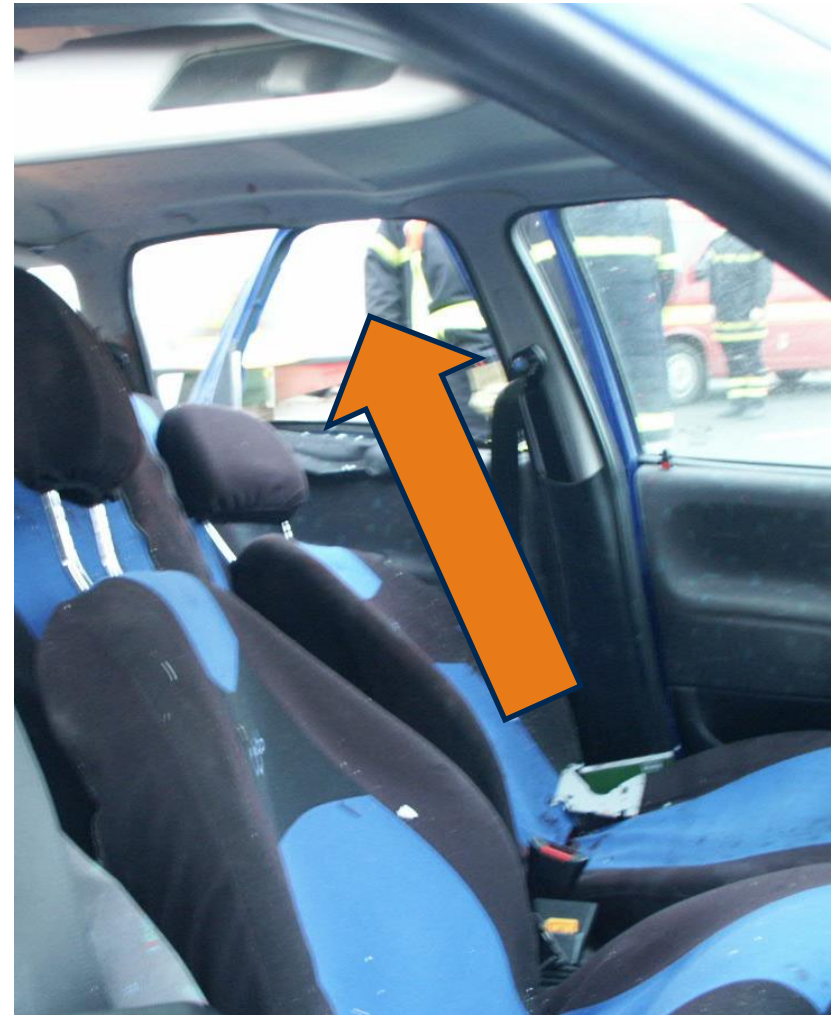
Examples for unbelted occupants – deformations of lower dashboard and steering wheel



Examples for unbelted occupants – consequences



Examples for unbelted occupants – ejection



Benefit of Seat Belt Reminder in Germany

data source

- GIDAS, representative for German accident situation
- all accidents with passenger cars

method

- calculate Injury risk for belted and unbelted occupants
- estimate the benefit for unbelted occupants case by case
- summarize the single benefits
- multivariate analysis (together with breathalyzer, VSC, LDW)

assumptions

- all cars and seats are equipped with Seat-Belt-Reminders
- 10% ignore/manipulate the Seat-Belt-Reminder system
- every accident could only be prevented once

Benefit of Seat Belt Reminder in Germany

reduction of participant numbers	all participants	uninjured participants	slightly injured participants	seriously injured participants	fatalities
breathalyzer (AAT)	-1,6%	-1,5%	-1,6%	-1,7%	-1,7%
lane departure warning (SVW)	-2,5%	-2,0%	-2,8%	-3,7%	-5,3%
electronic stability control (ESP)	-7,1%	-6,0%	-7,8%	-9,3%	-10,2%
seat belt reminder (GURTW)	0%	+1,0%	-0,3%	-3,7%	-12,3%
univariate all systems	-11,2%	-8,5%	-12,5%	-18,4%	-29,5%
multivariate all systems	-10,1%	-7,8%	-11,2%	-16,1%	-24,8%

THANK YOU FOR YOUR ATTENTION!

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