

INJURY WATCH

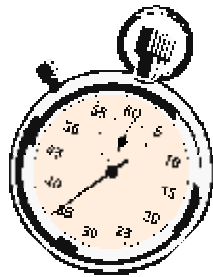
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Maryland Crime Crash Clock 2003



- 1** murder every **16** hours
- 1** aggravated assault every **22** minutes
- 1** violent crime every **13** min.
- 1** property crime every **2.5** minutes
- 1** crime every **2** minutes



- 1** fatality every **13** hours
- 1** injury every **9** minutes
- 1** property damage every **7.5** minutes
- 1** crash every **5** minutes

Data Source: Maryland State Police Central Records Division
Maryland State Highway Administration TSAD

Crash Characteristics and Outcomes Associated with Moderate/Severe Brain Injuries

Objective: Despite the availability of modern occupant restraints, some drivers/passengers still sustain moderate-to-severe brain injuries. The purpose of this analysis is to describe the crash characteristics for such patients seen at one center, and to examine outcomes for a subset with one-year follow-up data. **Methods:** All CIREN cases with a brain injury severity between AIS 3-6 were identified (N=44). For a subset of patients (N=14), one-year follow-up data were presented. **Data sources:** All data were obtained as part of CIREN, a multi-center research endeavor based on a collaboration of medical and engineering researchers studying crash-related injuries. **Results:** Of the 44 cases, 23 (52%) of moderate/severe TBIs were incurred in frontal collisions, followed by 30% left lateral and 16% right lateral. Most patients (84%) were drivers, ranging in age from 16-86; 52% were female. The major contact points associated with injury were the frontal airbags, left A-pillar, left B-pillar, roof rail, and non-contact injury source. The median ISS score was 33, and more than one third (36%) of the cases were fatalities. Airbags deployed during the crash for 77%; seatbelts were only properly used by 52%. The median delta v was 45 kph. For the 14 patients with long-term follow-up data, 10 had an admission GCS score between 3-8, with 4 between 9-12. At one year, 6 (43%) were unable to return to work or school, 86% exhibited behavioral changes, 93% reported cognitive problems, and 64% had not returned to driving. The median charges associated with treatment, including acute care hospital, professional and rehab charges, were estimated to be \$105,738, or a total of \$2,463,184 for these 14 patients. **Conclusions:** The consequences of brain injury include cognitive, physical, and behavioral changes. These problems affect not only the patient, but their family, and society in general, as the economic burden is staggering. **Discussion:** As more side airbags become available, the incidence of severe TBI should decline, since one of the primary contact points was the B-pillar. Some of the head injuries sustained in frontal collisions would probably have been prevented by proper seatbelt use; however, several injuries had no identified contact injury source.

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Unless otherwise
noted, information
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Watch is based on
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"To prevent death and disability from injury and sudden illness through interdisciplinary research..."

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Have a suggestion for future topics? Let us know.

The Charles McC. Mathias, Jr., National Study Center for Trauma and Emergency Medical Systems (NSC) is an academic research organization dedicated to studying the causes, treatment, and outcomes of traumatic injury and sudden illness. The NSC is located on the campus of the University of Maryland, Baltimore. Since its creation in 1986, the NSC has earned an international reputation as a leader in trauma and emergency medicine research. The Center's strength resides in its teams of investigators and their expertise in study design, database linkages, interpretation of results, and application of findings. Results of NSC studies have been used to enhance patient care, to improve vehicular safety, to develop public education programs for the prevention of trauma, and to support state and federal legislation regarding injury prevention.

2005 Traffic Records Forum Call for Presentations

The 2005 Forum, to be held in Buffalo, New York (July 25-29), will feature sessions on the use of traffic records to address traffic safety and related security issues at the national, state and local level. Separate sessions are being planned for applications in the fields of traffic engineering, law enforcement systems, communications and data collection technology, traffic safety, electronic citations, motor vehicle traffic crashes, driver licensing, judiciary systems, motor vehicles, public health, and others. Informative presentations are encouraged from public and private entities who collect, process or use traffic record data to identify safety problems, develop safety programs or evaluate their effectiveness. Special emphasis is being placed on systems that provide accurate and timely information using state of the art technology. A Word version of the Application, and complete details regarding submission are available at www.atsip.org in the 2005 Forum section.



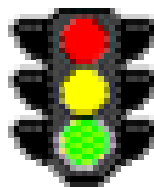
SUBMISSIONS NEED TO BE RECEIVED BY FEBRUARY 1, 2005.

Older Driver Notes

- ⇒ Overall crash involvements per driver decrease with age, but fatal involvements increase among drivers starting at age 70.
- ⇒ Per mile driven, overall and fatal involvement rates begin to increase at the age of 70 years.
- ⇒ Except for deaths among their passengers, older drivers are not over-involved in crashes in which other road users are killed per driver, but are over-involved per unit of vehicle travel.
- ⇒ Drivers aged over 75 years may have a modestly increased risk per driver of involvement in collisions in which occupants of other vehicles receive non-fatal injuries.
- ⇒ Older drivers experience the most serious consequences of their collisions, comprising two-thirds of the deaths in crashes involving drivers 75 years and older.
- ⇒ Frailty is a major contributor to the elevated risk of older driver deaths per unit of travel. Countermeasures should be developed to address frailty, including improvements to seatbelt design.
- ⇒ Although screening tests are far from perfect, it is reasonable for clinicians to start to perform simple periodic tests in the office setting among older drivers and refer them for more in-depth evaluations as needed.

This information was presented in an article entitled 'Older Drivers and Motor Vehicle Crashes' which was authored by Elisa Braver, PhD, and published in *Hospital Medicine*, October 2004.

Red Light Running Update



During 2002 and 2003, there were 6,889 motor vehicle crashes in which at least one of the contributing circumstances was identified as 'failure to obey a traffic signal'.

These crashes involved over 20,000 persons during the two-year period; however, there were 12% fewer crashes and 16% fewer persons involved in 2003 than during the previous year.

While the majority (70%) of the persons involved were identified on the crash report as sustaining 'no injury', there were 58 fatalities (44 drivers, 10 passengers, and 4 pedestrians).

Crash Characteristics and Outcomes Associated with Moderate/Severe Brain Injuries was based on data collected as part of the Crash Injury Research and Engineering Network (CIREN) and was presented at the 2004 annual meeting of the Association for the Advancement of Automotive Medicine.