

# Technology Associates

Forensic Engineering Experts – Ph (800) 358-9909 - Fax (888) 358-9901

## OCCUPANT INJURIES

In many vehicle accident investigations, it is necessary to know not only the speeds and motions of the vehicles involved, but the causes of injuries suffered by their occupants as well. Such investigations seek to answer questions regarding occupant ejection, effects of seatbelt use, airbag deployment and body-interior impacts. Such answers can sometimes be found through simple analyses, or they may require advanced three-dimensional simulations and computer modeling techniques. Once an analysis of this type is complete, it is often necessary to generate drawings or animations to communicate the findings to a judge, jury or mediator.



### Expertise

We have significant experience in many aspects of occupant dynamics including:

- Determining the effect of seatbelt slack and stretch and airbag deployment upon occupant injuries
- Determination and calculation of Head Injury (HIC) and other injury criteria
- Computer simulation and animation

### Questions Answered

Through scientific analysis, we can help you answer pertinent questions such as:

- Are the alleged injuries consistent with the evidence?
- Was the driver/passenger wearing a seatbelt?
- Would the use of a seatbelt or airbag deployment have prevented or reduced the occupant's injuries?

### Case Examples

#### SUV Rollover Ejection:

A woman driver was seriously injured when her SUV was struck sideways by a car causing her vehicle to roll over. The SUV driver was ejected because she was unbelted. The defense claimed that, based upon statistical studies, she would not have been injured if she had been belted. We demonstrated that her major injuries were caused by her impact with the door interior, which would have been inflicted even if she had been belted and was not ejected. The case settled in the plaintiff's favor.

#### Two Car Collision:

Two cars collided at an intersection because one driver was inattentive while crossing the intersection at high speed. Her vehicle collided with the side of the other vehicle and she was injured even though her airbag deployed. She later admitted that she was not wearing her seatbelt, but was still seeking compensation for her injuries. We reconstructed the accident and determined that if she had been wearing a seatbelt, she would not have been seriously injured.