PRESENTED AT

The Car Crash Seminar

August 15-16, 2024
Austin, Texas

INJURY CAUSATION IN LOW PROPERTY DAMAGE CASES

BRIAN MINCHER
GRIFFIN SCHEUMACK

INJURY CAUSATION IN LOW PROPERTY DAMAGE CASES

By: Brian Mincher and Griffin Scheumack, Burress Law, PLLC

The most common low property damage personal injury case in the motor vehicle context is the rear-end collision. Low speed rear-end motor vehicle accidents often result in no or minimal damage to the involved vehicles. Occupants of the struck or "target" vehicle, however, often complain of injury to the neck and back after such collisions. Insurance companies tend to view these claims as invalid, and in some cases as outright fraudulent, and adjusters like to use one of their favorite phrases for such collisions... "there is no mechanism for injury." There is, however, research indicating that such impacts can and indeed do lead to injury, and even permanent injury. But, what are the medical and scientific principles that substantiate these kinds of injuries? We will try to answer that question in this presentation. Topics covered will include the physics of injury, **the** most commons injuries, references to articles discussing these kind of collisions, and handling these cases in the pre-litigation and litigation stages.

The Physics

Damage We Like To See

Damage We Often "See"

When you start to talk about the physics of a car wreck, typically, this where eyes glaze over and people get lost in the explanation of how injury occurs from the forces transferred into vehicle occupant's body in a crash. The principles, however, are actually quite simple:

Physics of Rear End Collisions : Physics Concepts - YouTube — the scientific explanation of velocity in rear-end collisions

Newton's Laws of Motion (Motion, Force, Acceleration) - YouTube — Newton's 3 laws

Understanding the car rear end collision concept using physics: Whiplash | Apple on Rod demo - YouTube

— Newton's 2nd law and rear-end collisions

To put it simply, personal injuries in a car wreck are caused by the effect of the impact on the human body — which can be explained by Newton's Three Laws of Motion. They are:

1. An object at rest will remain at rest unless acted upon by an outside force. An object in motion continues in motion with the same speed and in the same direction unless acted upon by an outside force.

2. Acceleration is produced when a force acts on a mass. The greater the mass (of the object being accelerated) the greater amount of force needed (to accelerate the object).

3. For every action there is an equal and opposite reaction. Related factors

   include energy, inertia, force, mass, acceleration, and velocity.

Here is the common scenario: The front or target vehicle is stopped when it is unexpectedly rear-ended by another vehicle. There may be little or no visible property damage to either vehicle, because the energy absorbing bumpers have done their job. However, for the occupants of the target vehicle, the reaction to the impact is that their torsos are thrown forward, while their heads lag behind for a fraction of a second, causing their necks to be hyper-extended. As the torsos of the occupants rebound against the seat backs, their heads then move forward, but are snapped back again, by their necks, and overshoot the torso, again causing the neck to be hyper-extended. This whiplash effect is worsened if the headrests are too low or set too far back. This whole occurrence takes place in less than a second.
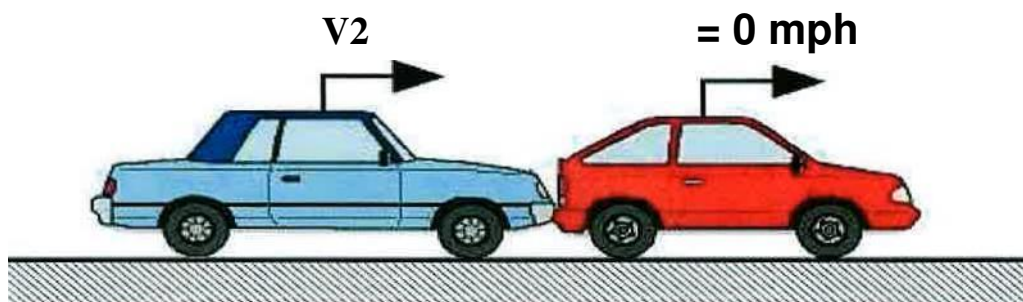
V2   **= 0 mph**

Title search: Injury Causation in Low Property Damage Cases

Also available as part of the eCourse
[Answer Bar: Taking on the Car Crash Client](#)

First appeared as part of the conference materials for the
2024 The Car Crash Seminar session
"Low Property Damage Cases"