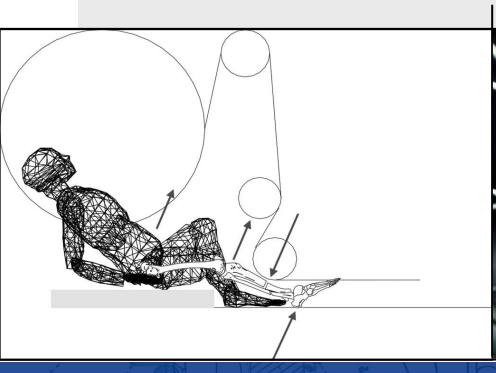
Biomechanical vs. Medical Experts

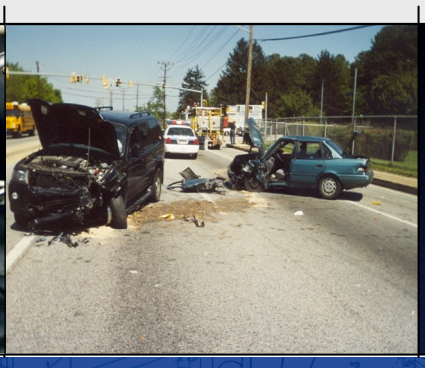
Substantial personal injuries are often attributed to low speed vehicular impacts despite the relatively small amount of damage to the involved vehicles. In most cases a medical diagnosis is obtained soon after the accident from a treating physician and is based on factors such as the patient's symptomatology (range of motion, onset and location of pain, etc.), diagnostic tests, x-ray and MRI images. While medical opinions are indispensible in most vehicular injury cases, there is often a disconnect in understanding how a qualified biomechanical engineer can be used to either augment or discredit such opinions.

Biomechanical engineers use a variety of techniques including computational simulations, experimental models, and laboratory tests to determine the forces and motions experienced by an individual during an accident. Much of this data has been documented and compiled in databases and can be quickly researched. The calculated forces and motions can then be compared with injury criteria, injury scales, and epidemiological data to determine whether the reported/diagnosed injuries are consistent with the physical evidence and reconstruction of the accident. While physicians are trained to identify and treat injuries, most are not familiar with the biomechanics of injuries and even less are trained in engineering principles. Furthermore, most information that physicians receive regarding accidents comes directly from patients and not from an independent analysis of unbiased data.

A biomechanical analysis can be extremely powerful when used in conjunction with a medical diagnosis. For example, while a physician could determine that an individual had incurred specific injury (e.g. soft tissue injury, disc hernia, vertebral fracture, etc.), a biomechanical engineer could supplement that diagnosis with an evidence-based analysis stating that the specific accident in question had indeed produced the necessary mechanisms and forces to surpass published injury thresholds. Similarly, a biomechanical analysis that suggests that the forces and motions are not consistent with a diagnosed injury can be used effectively in conjunction with a medical report that finds no physiological evidence of injury or that all injuries appear to be pre-existing.

When it comes to working with experts in support of claims and litigation, both biomechanical engineers and medical doctors provide complementary valuable opinions, but each work product is very different and a critical factor may be whether the medical expert understands the legal process.



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