REPRESENTATIVE FORENSIC SPINE INJURY CASE

Why counsel requested my opinion

Rear-end collision / Limited property damage / Disputed causation

Collision history

The patient was stopped in a Mercedes-Benz C300 when a Ford F-150 pickup struck her vehicle from behind. She described an abrupt jolt, and the reported vehicle damage was approximately $600. At my initial examination, she reported neck and low-back complaints, along with concussive symptoms.

The question counsel asked

Counsel requested an opinion on the relationship between the rear-impact mechanics and the objective medical findings. The central question was whether the evidence supported a new cervical injury, an aggravation of pre-existing cervical degeneration, or symptoms attributable to the underlying condition.

Evidence I reviewed

I reviewed the police collision report, available vehicle information, clinical history, examination findings and treatment records. My review also included an independent examination of the original cervical MRI images, the cervical flexion-extension radiographs, and the available neurological and concussion-related evaluations.

Clinical course

The clinical record documented headaches, upper-extremity symptoms and, later, cognitive complaints. In assessing their relationship to the collision, I considered the timing and progression of these symptoms separately from the objective cervical findings.

How the findings informed my opinion

What the repair estimate established

The approximately $600 repair estimate described vehicle damage, not the forces transmitted to the patient. The abrupt rear-impact acceleration subjected her cervical spine to inertial loading. In my opinion, the combined collision and clinical evidence supported significant loading sufficient to produce cervical ligament subfailure. The magnitude of those forces was not quantified by the repair estimate.

Cervical ligament subfailure and causation

My digital analysis of the cervical flexion-extension radiographs identified abnormal translation and angular motion between adjacent vertebrae, demonstrating impaired ligamentous restraint. I measured the movement of each vertebra relative to the vertebra immediately below it. When correlated with the examination findings, symptom onset, clinical course and collision history, these findings support a new traumatic ligamentous subfailure injury superimposed on the pre-existing cervical degeneration.

In my opinion, the rear-end collision directly caused this new ligament injury. Traumatic ligament subfailure requires loading of sufficient magnitude to exceed the ligament fibers' physiological tolerance, producing structural damage and loss of stabilizing function without complete rupture. The collision therefore imposed significant traumatic forces sufficient to injure the cervical ligaments. This opinion reflects the combined clinical, radiographic and collision evidence; the limited visible vehicle damage does not negate the evidence of injury.

How I evaluated pre-existing degeneration

My independent review of the original cervical MRI images addressed the C6-C7 disc abnormality and surrounding degenerative changes. I evaluated these findings in the context of the onset and course of the patient's complaints and the cervical motion studies. The MRI established structural pathology, while the clinical history and other findings informed my assessment of its relationship to the collision.

Concussion and causation

In my opinion, the rear impact also caused the patient's concussion. The abrupt acceleration of the occupied vehicle provided a mechanism for transmitting force to the head. The new cervical ligament injury supported my assessment that the neck sustained significant mechanical loading. The cervical motion studies did not measure head acceleration. I based my concussion opinion on the collision history, the concussive symptoms I documented at my initial examination, the subsequent clinical course and the neurological evaluations I reviewed.

Expert testimony and case outcome

Scope of testimony / Reported litigation outcome

What I explained to counsel

My report integrated the collision evidence, clinical course, cervical motion measurements and original MRI findings into a single causation analysis. I directly attributed a new cervical ligament subfailure injury to significant traumatic forces transmitted during the rear impact and explained the clinical basis for that opinion. I also addressed the C6-C7 disc finding and distinguished the collision-related ligament injury from the pre-existing degenerative changes.

Defense challenge and scope of testimony

The defense moved to exclude my testimony on collision mechanics and challenged my qualifications to relate the crash to the claimed injuries. At the hearing, the court considered my training in vehicle dynamics, traffic crash investigation and spinal biomechanical engineering, and qualified me to testify about collision mechanics in this case.

Reported litigation outcome

The reported defense offer before my testimony was $30,000. After my testimony and before closing arguments, the parties settled the case for $300,000.

About the expert

Peter Zilahy, DC, LAc, FPSC, is a Fellow in Primary Spine Care with postgraduate training in spinal MRI, spinal trauma, traffic crash investigation and vehicle dynamics.

Scope of this summary

This abbreviated summary presents selected opinions from one completed matter. The underlying report contains the detailed measurements, imaging analysis and demonstratives. Before publication, confirm the scope of the court's ruling against the transcript or order, and confirm clearance to disclose the case details and settlement.