



The Sibley Report

August 2001

... the place to find valuable information to help make your job - and your life easier. If you have a topic idea or any other suggestions, please give our Editor - Angie Catenaro - a call. Sibley & Associates is a national disability management firm with a decade of experience, 165 plus healthcare professionals and state-of-the-art technology. Our customers benefit from all the advantages a large company has to offer...while also benefiting from the "small business" customer service philosophy of our dedicated Insurance Services Division.

Low speed MVAs can still have a big impact...

"Whiplash" is a soft tissue neck injury caused by the body's sudden acceleration and deceleration that results in a significant transfer of energy to the neck. This type of injury most commonly occurs as a result of a rear-end or side-impact motor vehicle accident. In addition to whiplash, the car accident victim may also suffer from a variety of other related symptoms referred to as "Whiplash Associated Disorders" (WAD), such as: neck pain, dysphasia, tmj dysfunction, dizziness/vertigo/tinnitus, myofascial type of pain, headache, cerviobrachalgia, low back pain, and anxiety.

It's hard to believe that a 32km/hour MVA could generate a force of 12G on the human head - a force greater than what the Apollo Astronaut's experienced while accelerating toward the moon! In fact, a 6-km/hour impact can subject the cervical spine to as much as 4.5G, which constitutes the threshold for mild cervical strain injury. Injury can occur even at these low speeds because the neck is unable to sufficiently compensate for the speed of movement of the head and torso created from the forces generated at the time of impact.

Just imagine you are waiting at an intersection, when you are rear-ended by a car traveling only 32km/hour... no problem right? Maybe / Maybe not. This could be you:

- Your vehicle immediately accelerates forward, followed just 100 milliseconds later by your trunk and shoulders (caused by the force of the car seat being transferred to your seated body).
- Because your head has no force directly impacting on it, it remains static. This causes your neck to strain and extend as your shoulders continue to move forward underneath your head.
- After this dramatic extension of your neck, the inertia of your head is eventually overcome and your head also accelerates forward.
- Your neck then acts as a lever resulting in a whip-like forward acceleration of the head... and your neck and head then race forward.
- Immediately following the accident you are in pain... OR you don't experience any - however, later that day or the next day, you start to experience stiffness or even become unable to move.

Once you understand the human body's kinetic response to a rear-impact MVA, it is no wonder that even low speed collisions can have a big impact!

Thank you to Lynn Highley, Pilot Insurance in London, for this topic.

1. Scientific Monograph of the Quebec Task Force on Whiplash-Associated Disorder: Redefining "Whiplash" and Its Management, Section 3: Consensus Findings page 215

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