



# Injury Briefing

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*A review of the latest studies from Dr. Michael D. Berry.*

## Frontal Crashes Pose Risk of Injury

Although numerous studies have investigated low-speed, rear-end collisions, fewer have examined the likelihood of injury in frontal crashes. A new study suggests that minor injury can occur in frontal crashes at less than 8 mph.<sup>1</sup>

The study included 19 healthy, informed volunteers who underwent frontal crashes between 4.1-8.3 mph. Other than minor cosmetic damage and scuffs, there were no signs that the cars had been in collisions. Despite this, 88% of participants reported some form of mild to moderate pain or discomfort following the crash. The most common complaint was neck pain, followed by discomfort in the shoulders and upper back. Most participants felt better within 2-3 days.

Another study examined crash-related injuries from hospital data and discovered that the average frontal crash was 8.1 mph. Croft *et al*<sup>2</sup> suggests though that injuries can indeed occur in frontal collisions under 8.1 mph, however minimal the injuries may be.

Researchers concluded that:

“Even at relatively low speeds, there is no lower threshold below which it can be reasonably assumed that healthy and prepared volunteer rear seat passengers will not sustain some level of minor injury in a frontal collision.”

1. Bunketorp O, Jakobsson L, Norin H. Comparison of frontal and rear-end impacts for car occupants with whiplash associated disorders: symptoms and clinical findings. *Proceedings of the International IRCOBI Conference. Graz, Austria; 2004. 245-56.*
2. Croft A and Eldridge R. Human subject rear passenger symptom response to frontal car-to-car low speed crash tests. *Journal of Chiropractic Medicine 2011;10:141-146.*

## New Tool for Predicting Chronic Whiplash

It's estimated that between 10-40% of people with neck injuries from an auto collision develop chronic symptoms.<sup>1</sup> Determining what causes chronic whiplash symptoms could reduce that number. Previous research has explored a myriad of factors contributing to chronicity of whiplash

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including but not limited to: degree of nociceptive sensitization, psychological risk factors, presence of neck and head pain, dizziness, and limited cervical range of motion.

Researchers tested this new grading system on 141 patients with whiplash and a control group of 40 ankle-injured patients. Whiplash patients with worse symptoms initially were more likely to develop chronic symptoms and less likely to have recovered from their injury after 12 months. The number of high-risk patients who returned to work after one year was as low as 50% in strata 6 and 20% in strata 7.

These results demonstrate that this new grading system could predict chronic whiplash based on a) active neck mobility, b) combined pain score of headache and neck pain and c) a summation of non-painful symptoms.

Researchers pointed out that “this risk assessment score is in concordance with both severity of sensitization of the nociceptive system, the severity of psychological distress, and measures of neck strength and duration.” They also argued that the risk assessment score could be easily used by general practitioners.

This study confirms that multiple factors can combine to contribute to whiplash chronicity. It also suggests that addressing these symptoms comprehensively could prevent persistent whiplash problems.

1. *Treleaven J. Dizziness, unsteadiness, visual disturbances, and postural control: implications for the transition to chronic symptoms after a whiplash trauma. Spine 2011;36(25S):S211-217.*
2. *Kasch H, Qerama E, Kongsted A, et al. The risk assessment score in acute whiplash injury predicts outcome and reflects biopsychosocial factors. Spine 2011;26(25S):S263-S267.*
3. *Kivioja J, Jensen I, Lindgren U. Neither the WAD-classification nor the Quebec Task Force follow-up regimen seems to be important for the outcome after a whiplash injury. A prospective study on 186 consecutive patients. European Spine Journal 2008 ;17:930 – 5.*