



# Australian Association of Musculoskeletal Medicine

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## **Incidence and Outcome of Whiplash Injury After Multiple Trauma.**

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### **Abstract:**

**Study Design.** A retrospective study of 101 consecutive polytrauma patients with regard to whiplash injury.

**Objectives.** To investigate the incidence and evaluate long-term outcome of whiplash injury following high-energy trauma.

**Summary of Background Data.** Chronic whiplash injury has been widely reported in the literature, following low-energy trauma. Very few studies exist on whiplash injury following high-energy trauma.

**Methods.** A total of 101 consecutive polytrauma patients admitted to our Level I Trauma Center over a 2-year period, fulfilling the inclusion criteria (age >18 years, high-energy trauma [a fall from a height >2 m, road traffic accidents with speed >30 km/h], and Injury Severity Score >16), were assessed. Whiplash injury was defined according to Quebec Task Force guidelines. The study group (n = 13) included patients who developed whiplash injury symptoms and the control group (n = 88) those who did not. The Neck Disability Index was calculated as an outcome measure for patients complaining of whiplash injury symptoms. The mean follow-up was 17 months. The [chi]<sup>2</sup> and Student t tests were used for the statistical analysis (SPSS 12.1; SPSS, Inc., Chicago, IL).

**Results.** Only 13 out of 101 patients (1 female/12 male) (13%) complained of whiplash injury. There was a significantly higher rate of neck pain at triage (P < 0.001) and higher combined mean of Abbreviated Injury Score of upper torso (P < 0.0001) in the study group, elucidating the cause of whiplash injury. The Neck Disability Index was <24 points, indicating only mild-to-moderate disability in these patients. Whiplash injury incidence in this study (13%) was similar to the incidence of neck pain in the general population.

**Conclusions.** The incidence of whiplash injury following polytrauma was found to be low in our study. There is no dose-response relation between magnitude of trauma severity and incidence of whiplash injury.