

### Whiplash Neck Injury

*Eck et al. American Journal of Medicine. June (2001) Vol. 110 # 8 p 651.*

A non-systematic review of studies of the consequences of whiplash incidents.

The authors find a diverse opinion on the prevalence of long term consequences (pain, discomfort and disability) which range from 4 to 42%. However, none of these outcomes is objective.

The authors conclude that objective measures such as MRI and CT investigation post incident is of no value 1) because of the high prevalence of pre-existing abnormalities and 2) the lack of sensitivity to detect minor changes, such as soft tissue injuries. Perhaps these would be less problematic if there were scans made just before an incident.

The authors express firm support for a measure of the relative acceleration between head and neck during collision, called NIC. The NIC value should be of most use in seat/head rest design, where the aim should be to minimise relative acceleration during an accident.

#### Comment

The NIC scale is plausible but, as yet, not tested as a predictor of long term consequences of whiplash neck injury events. It has been tentatively successful in predicting immediate pain following an event.

It is not at all clear that long term consequences would depend on purely mechanical factors as suggested here, indeed one argument is that more complete physical healing occurs when injuries are initially more severe!

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*H Kasch et al. Spine. June (2001) Vol. 26 #11 p 1246.*

A 6 month prospective study of neck mobility in patients with acute whiplash injury. A corresponding study of neck mobility following acute ankle distortion was made for comparison.

232 whiplash cases and 100 ankle cases were invited to participate. 141 (61%) whiplash cases and 40 (40%) ankle cases were studied at 1 week, 1 month, 3 months and 6 months.

Cases with any co-presenting injuries were excluded. Care of cases and controls was not out of the ordinary.

3-plane, active, cervical range of movement (CROM) was measured objectively.

Whiplash cases on day 1 had statistically significant reduced CROM than did the ankle injury cases but the difference was not very large.

The small difference was maintained for up to 3 months.

There was no dose response between car damage or reported collision speed and, CROM.

Neck mobility was affected by body mass index and by age and this persisted throughout the observation period.

#### Comment

It would seem that for the cases included in the study, any effect on range of motion is small and likely to have cleared by three months.