Mobilisation of neck sprains

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Clinical scenario

A 45 year old man attends the emergency department after a road traffic accident. He complains of neck discomfort. He has discomfort on neck movement and clinical examination reveals muscular tenderness. You diagnose a neck sprain (whiplash injury). You wonder whether an early mobilisation is better than immobilisation in a soft collar.

Three part question

In [patients with a neck sprain] is [early neck mobilisation or immobilisation in a soft collar] better at [reducing early and late neck symptoms]?

Search strategy

Medline 1966 to 6/99 using the OVID interface. (exp whiplash injuries OR whiplash OR [exp neck injuries OR exp neck OR neck.mp] AND [exp sprains and strains OR sprain$.mp OR strain$.mp]) AND [exp physical therapy OR physiotherapy.mp OR manual therapy.mp OR exp emergency treatment OR exp treatment failure OR exp treatment outcome OR treatment$.mp or treat$.mp] AND maximally sensitive RCT filter LIMIT to human and English.

Search outcome

Ninety nine papers were found of which 94 were irrelevant or of insufficient quality for inclusion. The five remaining papers are shown in table 2.

Comment

There are five prospective randomised controlled trials of various quality in this area. All suggest that early mobilisation is at least as good as rest in the early stages after injury, and better in the long term. The role of active physiotherapy is less clear.

Clinical bottom line

Patients with simple neck sprain (whiplash) should be advised about neck mobilisation and encouraged to start as soon as possible. They should not be given cervical collars.

Table 2

<table>
<thead>
<tr>
<th>Author, date, and country</th>
<th>Patient group</th>
<th>Study type (level of evidence)</th>
<th>Outcomes</th>
<th>Key results</th>
<th>Study weaknesses</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mealy et al, UK, 1986¹</td>
<td>61 patients with acute whiplash injury Cervical collar v early active mobilisation</td>
<td>PRCT</td>
<td>Cervical movement at 8 weeks Intensity of pain at 8 weeks</td>
<td>Significantly better in mobilisation group (p&lt;0.05)</td>
<td>Rest group abandoned half way through trial</td>
</tr>
<tr>
<td>McKinney et al, 1989, UK²</td>
<td>170 patients with acute whiplash injury</td>
<td>PRCT</td>
<td>Cervical movement at 1 and 2 months Severity of neck pain at 1 and 2 months</td>
<td>Mobilisation and physiotherapy significantly better than rest (p&lt;0.01)</td>
<td>All patients given collars</td>
</tr>
<tr>
<td>McKinney, 1989, UK²</td>
<td>128 of the 170 patients in ref 2 followed up at 2 years Rest v home mobilisation v physiotherapy</td>
<td>PRCT</td>
<td>Proportion of patients with symptoms at 2 years</td>
<td>Significantly lower in advice alone group</td>
<td>68% follow up rate</td>
</tr>
<tr>
<td>Gennis et al, 1996, USA⁴</td>
<td>196 of 250 patients with whiplash injury following automobile crashes Cervical collar v no collar and unsupervised mobilisation</td>
<td>PRCT</td>
<td>Pain at 6 weeks</td>
<td>No significant difference</td>
<td>Short follow up period</td>
</tr>
<tr>
<td>Borchgrevink et al, 1998, Norway⁵</td>
<td>201 patients with neck sprain that resulted from a car accident Cervical collar v unsupervised mobilisation</td>
<td>PRCT</td>
<td>Neck pain at 14 days and 24 weeks Neck movement at 14 days and 24 weeks</td>
<td>Significantly better in mobilised group Significantly better in mobilised group</td>
<td>Only 69% of patients completed the trial</td>
</tr>
</tbody>
</table>

PRCT = prospective randomised controlled trial.