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The role of physiotherapy in the management of acute neck sprains following road-traffic accidents.
Outpatient treatment and advice to mobilise earlier were both more effective than analgesics and a collar in treating acute neck sprains.
In acute whiplash injuries, early physiotherapy has been shown to reduce pain and increase cervical movement, but the cost-effectiveness of this treatment has been questioned. It is unclear whether the benefits result from manipulative physiotherapy or from the patient's ability to perform the accompanying home exercise programme when instructed about its importance. In a single blind prospective randomized trial 71 patients who received out-patient physiotherapy were shown to have significant improvement in severity of neck pain (P less than 0.01) and cervical movement (P less than 0.01) at 1 and 2 months post-injury when compared with 33 patients who received analgesia and a cervical collar. Sixty-six patients who were offered comprehensive advice for home mobilization by a physiotherapist showed a similar improvement. There appears to be no difference in effectiveness between outpatient physiotherapy and home mobilization.
McKinney LA, Dornan JO, Ryan M.
Arch Emerg Med
Mar;6(1):27-33
1989
Whiplash: Trials
Early mobilisation and outcome in acute sprains of the neck.
A single advice session produced fewer patients with persistent symptoms at 2 years than a course of manipulative physiotherapy. Prolonged collar wearing is associated with persistence of symptoms.
OBJECTIVETo assess the long term effect of early mobilisation exercises in patients with acute sprains of the neck after road accidents. DESIGN.—Single blind randomised prospective study of patients receiving physiotherapy, advice on mobilisation, or on an initial period of rest followed up after two years by postal questionnaire. SETTINGAccident and emergency department in urban hospital. PATIENTS247 Consecutive patients (mean age at injury 30.6 years) presenting within 48 hours after injury with no pre-existing disease of the neck or serious skeletal injury. Of these, 167 patients responded to the questionnaire; 77 who responded but had not completed their treatment or review course were included in the analysis as a fourth group (non-attenders). MAIN OUTCOME MEASUREPresence of symptoms after two years. RESULTSOf the 167 patients (68%) responding, the percentage of patients still with symptoms was not significantly different in those receiving rest or physiotherapy (46%, 12/26 v 44%, 24/54), but that in those receiving advice on early mobilisation was significantly lower (23%, 11/48, p = 0.02). Of the 104 patients without symptoms, 94 (90%) recovered within six months and 62 (60%) within three months. Patients without symptoms who received advice or physiotherapy wore a collar for a significantly shorter time than those with persistent symptoms (mean duration 1.4 (SD 0.7) months v 2.8 (1.6) months, p = 0.005 and 1.6 (1.1) months v 1.8 (1.3) months, p = 0.006 respectively). CONCLUSIONSAdvice to mobilise in the early phase after neck injury reduces the number of patients with symptoms at two years and is superior to manipulative physiotherapy. Prolonged wearing of a collar is associated with persistence of symptoms.
McKinney LA.
ВМЈ
Oct 21;299(6706):1006-8
1989
Whiplash: Trials
Early mobilization of acute whiplash injuries.
Early active mobilisation and exercises produced significantly less pain and improved movement compared to rest and use of a collar.
Acute whiplash injuries are a common cause of soft tissue trauma for which the standard treatment is rest and initial immobilisation with a soft cervical collar. Because the efficacy of this treatment is unknown a randomised study in 61 patients was carried out comparing the standard treatment with an alternative regimen of early active mobilisation. Results showed that eight weeks after the accident the degree of improvement seen in the actively treated group compared with the group given standard treatment was significantly greater for both cervical movement (p less than 0.05) and intensity of pain (p less than 0.0125).
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Abstract Author:	Mealy K, Brennan H, Fenelon GC.
	Br Med J (Clin Res Ed)
	Mar 8;292(6521):656-7
Year Published:	1986
Category:	Whiplash: Trials
Abstract Title:	Acute treatment of whiplash neck sprain injuries. A randomized trial of treatment during the first 14 days after a car accident.
Summary:	Continuing to engage in normal activities led to fewer symptoms than did sick leave and use of a collar.
Abstract Content:	STUDY DESIGN: A single-blinded, randomized treatment study with a follow-up period of 6 months. OBJECTIVE: To study the long-term consequences of whiplash neck sprain injuries in patients treated with two different regimes during the first 14 days after the car accident. Patients in the first group were encouraged to act as usual, i.e., continue to engage in their normal, pre-injury activities; that group was compared with another group of patients who were given time off from work and who were immobilized using a soft neck collar. The end point of the comparison was the evaluation of subjective symptoms 6 months after the accident. SUMMARY OF BACKGROUND DATA: Few randomized treatment studies have been performed to evaluate the clinical outcome for patients with neck sprain. METHOD: Patients who participated in the study were recruited from the Emergency Clinic at the University Hospital in Trondheim, Norway. The study group included 201 patients (47% of the study group) with neck sprain that resulted from a car accident. Neck and shoulder movements and subjective symptoms, which were assessed using several different measurements, were assessed during the follow-up period. RESULTS: There was a significant reduction of symptoms from the time of intake to 24 weeks after the treatment period in both groups. There was a significantly better outcome for the act-as-usual group in terms of subjective symptoms, including pain localization, pain during daily activities, neck stiffness, memory, and concentration, and in terms of visual analog scale measurements of neck pain and headache. CONCLUSIONS: The outcome was better for patients who were encouraged to continue engaging in their normal, pre-injury activities as usual than for patients who took sick leave from work and who were immobilized during the first 14 days after the neck sprain injury.
Abstract Author:	Borchgrevink GE, Kaasa A, McDonagh D, Stiles TC, Haraldseth O, Lereim I
Journal:	Spine
Biblio:	Jan 1;23(1):25-31
Year Published:	1998
Category:	Whiplash: Trials
Abstract Title:	Early intervention in whiplash-associated disorders: a comparison of two treatment protocols.
Summary:	Nearly 100 acute patients randomised to one of 4 arms: active (1) or standard (2) treatment, within 96 hours (1a, 2a) or after 2 weeks (1b, 2b), with follow-up at 6 months. If symptoms persisted in active treatment group beyond 20 days a McKenzie assessment was conducted and specific, rather than non-specific exercises used. Active treatment was significantly better than standard (initial rest, collar, gentle movements), early treatment better than delayed. Minimal or no symptoms at follow-up: 1a: 10%, 1b: 53%, 2a: 41%, 2b: 86%.

Abstract Content:	STUDY DESIGN: A prospective randomized trial in 97 patients with a whiplash injury caused by a motor vehicle collision. OBJECTIVES: The study evaluates early active mobilization versus a standard treatment protocol and the importance of early versus delayed onset of treatment. SUMMARY OF BACKGROUND DATA: There is no compelling evidence to date on the management of acute whiplash-associated disorders. The few studies describing treatment, however, provide evidence to support the recommendation that an active treatment in the acute stage is preferable to rest and a soft collar in most patients. METHODS: Patients were randomized to four groups. Active versus standard treatment and early (within 96 hours) versus delayed (after 2 weeks) treatment. Measures of range of motion and pain were registered initially and at 6 months. RESULTS: Eighty-eight patients (91%) could be followed up at 6 months. Active treatment reduced pain more than standard treatment (P < 0.001). When type and onset of treatment were analyzed, a combined effect was seen. When active treatment was provided, it was better when administered late for reduction of pain (P = 0.04) and increasing cervical flexion (P = 0.01). CONCLUSIONS: In patients with whiplash-associated disorders caused by a motor vehicle collision treatment with frequently repeated active submaximal movements combined with mechanical diagnosis and therapy is more effective in reducing pain than a standard program of initial rest, recommended use of a soft collar, and gradual self-mobilization. This therapy could be performed as home exercises initiated and supported by a physiotherapist. Research and Development Unit, Primary Health Care, Alvsborg, Sweden. mark.rosenfeld@telia.com
Abstract Author:	Rosenfeld M, Gunnarsson R, Borenstein P
Journal:	Spine
Biblio:	Jul 15;25(14):1782-87
Year Published:	2000
Category:	Whiplash: Trials
Abstract Title:	Active intervention in patients with whiplash-associated disorders improves long-term prognosis: a randomized controlled clinical trial
Summary:	3-year follow-up of 73 patients (75%) from previous study. Still significant differences between active and standard treatment in pain intensity and sick leave. Only early active treatment group had similar range of movement to matched controls.
Abstract Content:	STUDY DESIGN: Three-year follow-up of a prospective randomized trial in 97 patients exposed to whiplash trauma in motor vehicle collisions. OBJECTIVES: To compare the long-term efficacy of active intervention with that of standard intervention and the effect of early versus delayed initiation of intervention. SUMMARY OF BACKGROUND DATA: There is no strong evidence for many treatments for whiplash-associated disorders. Some studies provide weak evidence supporting active intervention. METHOD: Patients were randomized to an intervention using frequent active cervical rotation complemented by assessment and treatment according to McKenzie's principles or to a standard intervention of initial rest, recommended soft collar, and gradual self-mobilization. To test the time factor, interventions were either made within 96 hours or delayed 14 days from collision. The effects of the two interventions and the time factor on pain intensity, cervical range of motion, and sick leave were analyzed at 6 months and 3 years. Cervical range of motion at 3 years was also compared with that in matched, unexposed individuals. RESULTS: Pain intensity and sick leave were significantly (P < 0.05) reduced if patients received active intervention compared with standard intervention. Delaying intervention 2 weeks did not affect outcome variables. However, at 3 years, only patients receiving early active intervention had a total cervical range of motion similar to that of matched unexposed individuals. CONCLUSION: In patients with whiplash-associated disorders, active intervention is more effective in reducing pain intensity and sick leave, and in retaining/regaining total range of motion than a standard intervention. Active intervention can be carried out as home exercises initiated and supported by appropriately trained health professionals.
Abstract Author:	Rosenfeld M, Seferiadis A, Carlsson J, Gunnarsson R.
Journal:	Spine
Biblio:	Nov 15;28(22):2491-8
Year Published:	2003
Category:	Whiplash: Trials