

# SportsMedUpdate

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## TOPICAL KETOPROFEN PATCH (100 MG) FOR THE TREATMENT OF ANKLE SPRAIN. A RANDOMISED, DOUBLE BLIND, PLACEBO CONTROLLED STUDY

Mazieres B, Rouanet S, Velicy J, et al. *Am J Sports Med* 2005;33:515-23

### Background:

The use of a topical non-steroidal anti-inflammatory drug to treat soft tissue injuries in athletes may be advantageous because it may reduce the risk of side effects; however, their efficacy needs to be established.

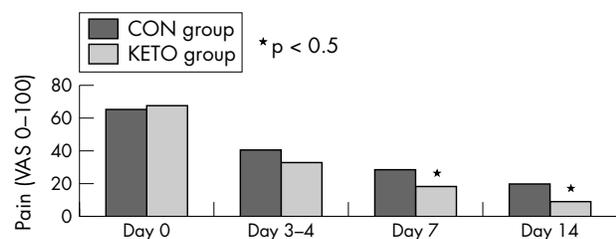
### Research question/s:

Does the application of a topical non-steroidal anti-inflammatory drug (100 mg patch of ketoprofen) applied once a day for 7 days, reduce pain in patients with an acute ankle sprain?

### Methodology:

**Subjects:** 163 patients with an acute ankle sprain (grade I or II).  
**Experimental procedure:** Subjects suffering from a painful (pain >50 mm on a 0-100 mm VAS), recent (<2 days) ankle sprain were randomised into two treatment groups: (1) a ketoprofen group (100 mg topical patch 1/day for 7 days, KETO= 81, and 2) a placebo group, CON=82). Patients were followed on days 0, 3 or 4, 7, and 14.  
**Measures of outcome:** Pain (on VAS 0-100) in the past 24 hrs, pain on active motion, a disability rating (0-4) and ankle swelling (circumference at malleolar level), rescue medication use, adverse events.

### Main finding/s:



- There was significantly less disability, greater total pain relief, less ankle swelling in the KETO compared to the CON group at day 7, but rescue medication consumption was similar in the groups
- The total number and nature of adverse events was similar between the two groups

### Conclusion/s:

In acute grade I to II lateral ankle ligament sprains, the application of a topical non-steroidal anti-inflammatory drug (100 mg ketoprofen patch applied daily for 7 days) significantly improved pain, swelling, and function compared with placebo.

**Evidence based rating:** 8/10 **Clinical interest rating:** 8/10

**Type of study:** Randomised, controlled, clinical trial

**Methodological considerations:** Well conducted study, no comparison to oral drugs, relatively "soft" measures of outcome

**Keywords:** ankle sprain, NSAIDs, topical, ketoprofen, soft tissue injuries

## A RANDOMISED CLINICAL TRIAL COMPARING TWO PHYSIOTHERAPY INTERVENTIONS FOR CHRONIC LOW BACK PAIN

Lewis JS, Hewitt JS, Billington L, et al. *Spine* 2005;30:711-21

### Background:

Individual manual therapy and individual as well as group exercise prescription are treatments frequently prescribed for patients with chronic low back pain.

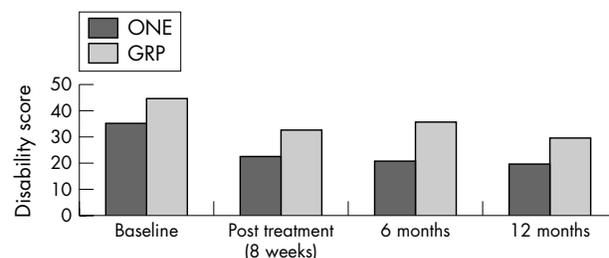
### Research question/s:

What is the clinical efficacy of individual manual therapy and exercise versus group physiotherapy (exercise) interventions for patients with chronic low back pain?

### Methodology:

**Subjects:** 80 patients with chronic low back pain (>3 months).  
**Experimental procedure:** Subjects were randomised to either one-to-one treatment involving 30 minutes of manual therapy (mobilizations to the spine) and spinal stabilisation exercises (ONE=40), or a 10 station exercise class involving aerobic exercises, spinal stabilisation exercises, and manual therapy (GRP=40) (8 treatments for 8 weeks). Questionnaires were completed, and physical measurements were taken by a blinded observer before randomisation, at the completion of treatment, and at 6 and 12 months after treatment.  
**Measures of outcome:** Quebec back pain disability scale (0-100 with 100 = max disability), range of motion.

### Main finding/s:



- There was a significant reduction (reduced disability) in the questionnaire score in both groups but significant difference between groups
- There were significant increases in range for all the physical movements tested in both groups
- The exercise group was 40% more cost effective than the individual treatments

### Conclusion/s:

Both an 8 week individual and an 8 week group exercise therapy programme for patients with low back pain reduce disability and increase movement, but group programmes may be more cost effective.

**Evidence based rating:** 8/10 **Clinical interest rating:** 8/10

**Type of study:** Randomised single blind (assessor) clinical trial

**Methodological considerations:** Well conducted study

**Keywords:** chronic low back pain, physiotherapy, manual therapy, exercises, rehabilitation, cost effectiveness

## SYSTEMATIC REVIEW: STRATEGIES FOR USING EXERCISE THERAPY TO IMPROVE OUTCOMES IN CHRONIC LOW BACK PAIN

Hayden JA, van Tulder MW, Tomlinson G. *Ann Intern Med* 2005;142:776-85

### Background:

There are various forms of exercise therapy for chronic low back pain, but it is not clear which forms of exercise therapy are most effective in reducing pain or improving function.

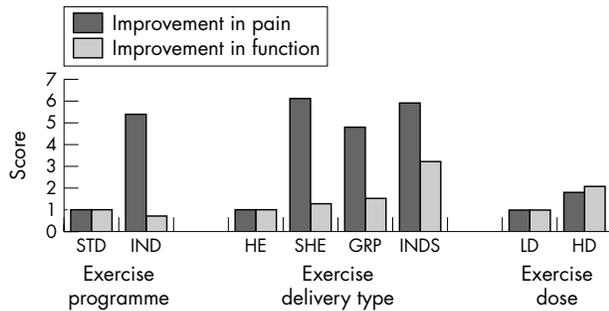
### Research question/s:

Which exercise intervention is most effective in decreasing pain and improving function in adults with non-specific chronic low back pain?

**Methodology:**

*Experimental procedure:* 43 randomised controlled clinical trials (72 exercise treatment and 31 comparison groups) evaluating exercise therapy in populations with chronic (>12 weeks duration) low back pain were included in the analysis. Exercise programme design (individualised (IND) vs standard (STD)), delivery type (home exercise (HE), supervised home exercise (SHE), group (GRP), individual supervised (INDS)), dose or intensity (high dose (HD), low dose (LD)), inclusion of additional conservative interventions and type (strengthening (STR), stretching (ST), aerobics (AER), coordination (CR), mobilising (MOB)) were documented

*Measures of outcome:* Pain scores, function scores.

**Main finding/s:**

Stretching (highest rank for improving pain) and strengthening (highest rank for improving function) demonstrated the largest improvement over other types of exercise.

**Conclusion/s:**

The most effective exercise therapy to improve pain and function in chronic non-specific low back pain consists of individually designed, supervised, programmes that include stretching or strengthening.

**Evidence based rating:** 9/10 **Clinical interest rating:** 9/10

**Type of study:** Systematic review

**Methodological considerations:** Limitations of the literature (low-quality studies, heterogeneous outcome measures, inconsistent and poor reporting), and publication bias

**Keywords:** low back pain, exercise, randomised trials, meta analysis

**EVIDENCE FOR INCREASING PATENCY OF THE FORAMEN OVALE IN DIVERS**

Germonpre P, Hastir F, Dendale P, et al, *Am J Cardiol* 2005;**95**:912–15

**Background:**

A patent foramen ovale (PFO) of the heart has been associated with the occurrence of certain types of decompression sickness (DCS) after scuba diving.

**Research question/s:**

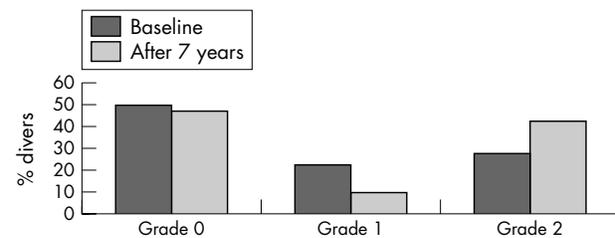
What is prevalence and size of patent foramen ovale (PFO) in a group of divers, and does the degree of patency change over time?

**Methodology:**

*Subjects:* 40 divers.

*Experimental procedure:* All the divers underwent standardised contrast-enhanced trans-oesophageal echocardiographic technique to determine the presence and size (Grade 0–2) of a PFO, on two occasions (7 years apart). Prior to the first assessment, it was recorded that 16 divers had experienced decompression sickness (but no events occurred between the first and the second measurement).

*Measures of outcome:* Prevalence (%) and size (Grade 0–2) of a PFO.

**Main finding/s:****Conclusion/s:**

In a 7 year follow-up study, there is an unexpected but significant increases in the prevalence and size of PFO in divers, suggesting a possible increasing risk for decompression sickness in these divers over time.

**Evidence based rating:** 7.5/10 **Clinical interest rating:** 7.5/10

**Type of study:** Prospective cohort study

**Methodological considerations:** Well conducted study

**Keywords:** diving, decompression sickness, foramen ovale, patency