

# SportsMedUpdate

Professor Martin P Schwellnus, University of Cape Town, South Africa

## A PROSPECTIVE, DOUBLE-BLIND, RANDOMISED CLINICAL TRIAL COMPARING SUBACROMIAL INJECTION OF BETAMETHASONE AND XYLOCAINE TO XYLOCAINE ALONE IN CHRONIC ROTATOR CUFF TENDINOSIS

Alvarez CM, Litchfield R, Jackowski D, et al. *Am J Sports Med* 2005;33:255-62

### Background:

It is common clinical practice to inject the subacromial space with cortisone in patients suffering from rotator cuff tendinosis; however, there is lack of scientific evidence for this practice.

### Research question/s:

Is a subacromial injection of betamethasone more effective than xylocaine alone in improving the quality of life, impingement sign, and range of motion in patients who have chronic rotator cuff tendinosis or partial rotator cuff tears?

### Methodology:

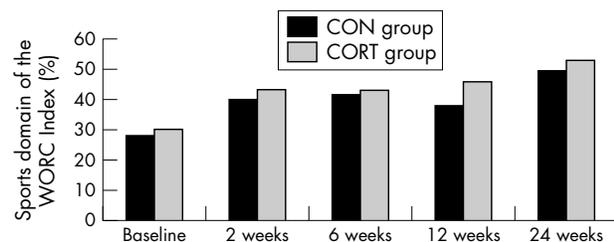
**Subjects:** 58 patients with rotator cuff tendinosis or partial cuff tear (>30 years, symptoms >6 months, failed physical therapy 6 weeks and NSAIDs for 2 weeks, >50% improvement with the Neer impingement test).

**Experimental procedure:** All subjects underwent an injection into the subacromial space containing either 5 mL of 2% xylocaine (CON=28), 4 mL of 2% xylocaine and 1 mL (6 mg) of betamethasone (CORT=30). Subjects were followed up at 2, 6, 12, and 24 weeks after injection.

**Measures of outcome:** The Western Ontario Rotator Cuff Index (WORC), American Shoulder and Elbow Surgeons (ASES) standardised form, Disabilities of the arm, shoulder and hand (DASH), active forward elevation, active internal rotation, active external rotation, and the Neer impingement sign.

### Main finding/s:

There were no significant differences between the CON and CORT groups for all outcomes and time intervals, and both groups showed



improvement from baseline in all outcomes.

### Conclusion/s:

Subacromial injection of betamethasone is not more effective in improving the quality of life, range of motion, or impingement sign than xylocaine alone in patients with chronic rotator cuff tendinosis for up to 6 months after injection.

**Evidence based rating:** 8/10 **Clinical interest rating:** 9/10  
**Type of study:** Randomised, double blind, placebo controlled clinical trial  
**Methodological considerations:** Small subject numbers, well conducted study  
**Keywords:** corticosteroid, tendinosis, rotator cuff, injection, subacromial

## EXERCISES TO PREVENT LOWER LIMB INJURIES IN YOUTH SPORTS: CLUSTER RANDOMISED CONTROLLED TRIAL

Olsen O-E, Myklebust G, Engebretsen L, et al. *BMJ* 2005;330:449-52

### Background:

It is frequently suggested that it may be possible to reduce the incidence of knee and ankle injuries among adults and adolescents by following specific warm up exercises before training or competitions.

### Research question/s:

Does a structured warm up programme reduce the incidence of knee and ankle injuries in young people participating in sports?

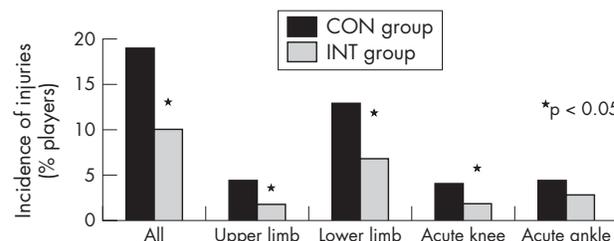
### Methodology:

**Subjects:** 1837 team handball players (15-17 yrs) from 120 clubs.

**Experimental procedure:** Clubs were randomly assigned to an intervention group (INT=61, 958 players (808 female, 150 male)), and a control group (CON=59 clubs, 879 players (778 female, 101 male)). The INT group followed a structured warm up programme (15-20 min) to improve running, cutting, and landing technique as well as neuromuscular control, balance, and strength. Subjects were followed for one season (8 months) while a team of physiotherapists recorded all injuries.

**Measures of outcome:** Incidence of all injuries, upper and lower limb injuries and acute knee or ankle injuries.

### Main finding/s:



Knee and ankle injuries: 129 injuries occurred during the season: 81 injuries in the CON group (0.9/1000 hrs play; 0.3 in training and 5.3 during matches); 48 injuries occurred in the INT group (0.11/1000 hours play; 0.2 in training and 2.5 during matches).

### Conclusion/s:

A structured programme of warm up exercises (15-20 min exercises to improve running, cutting, and landing technique as well as neuromuscular control, balance, and strength) can reduce the incidence of acute knee and ankle injuries in young people playing sports.

**Evidence based rating:** 8.5/10 **Clinical interest rating:** 8/10  
**Type of study:** Randomised controlled clinical trial  
**Methodological considerations:** Well conducted study, lack of generalisability to other sports  
**Keywords:** sports, injury, prevention, exercises, warm up

## A CONTROLLED RANDOMISED STUDY OF THE EFFECT OF TRAINING WITH ORTHOSES ON THE INCIDENCE OF WEIGHT BEARING INDUCED BACK PAIN AMONG INFANTRY RECRUITS

Milgrom C, Finestone A, Lubovsky O, et al. *Spine* 2005;30:272-5

### Background:

Shock absorbing shoe orthoses may reduce the incidence of back pain during military training by attenuating the shock wave that is generated at heel strike, but studies investigating this have not been conclusive.

### Research question/s:

Do custom-made shoe orthoses reduce the incidence of weight bearing induced back pain in military recruits undergoing training?

### Methodology:

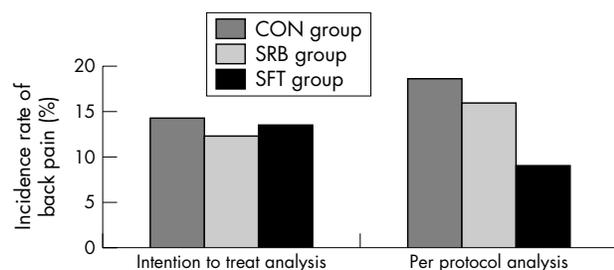
**Subjects:** 404 new infantry military recruits (no past history of back pain) (332 completed the study).

**Experimental procedure:** The subjects were randomly assigned to receive (1) custom soft (SFT = 111), (2) semi-rigid biomechanical (SRB = 112), or (3) simple shoe inserts without supportive or shock absorbing (CON = 109). The presence of any back signs and symptoms was assessed biweekly by an orthopaedic surgeon during 14 weeks of basic training.

**Measures of outcome:** Incidence (percent recruits) with back pain, percent subjects completing the study in each group.

### Main finding/s:

The overall incidence (percent subjects over 14 weeks training) of back pain was 14%.



**Completion of training:** Significantly more recruits in the SFT group finished training in their assigned orthoses (67.5%) than those in the SRB (45.5%) or the CON groups (48.6%,  $p = 0.001$ )

### Conclusion/s:

In military recruits undergoing 14 weeks basic military training, orthoses (soft custom-made or semi-rigid), did not reduce the incidence of back pain compared to placebo orthoses, but the recruits using softer orthoses were more likely to complete the training. Other factors, such as pre-training physical fitness and sports participation of recruits were not related to the incidence of weight bearing-induced back pain.

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

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

**Methodological considerations:** Well conducted study, no other injuries reported

**Keywords:** orthoses, back pain, training, prophylaxis, military recruits

## THE FEMALE ATHLETE TRIAD: ARE ELITE ATHLETES AT INCREASED RISK?

Torstveit MK, Sundgot-Borgen J. *Med Sci Sports Exerc* 2005;37:184-93

### Background:

Little is known about the prevalence of symptoms and risk factors of the female athletic triad in elite athletes and non-athlete controls.

### Research question/s:

What is the percentage of elite athletes and controls that are at risk of the female athlete triad?

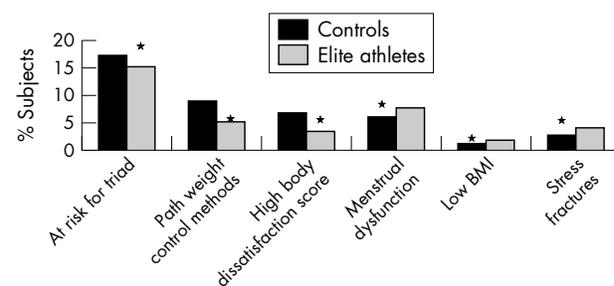
### Methodology:

**Subjects:** 938 elite female athletes (ATH junior/senior, Norway, 13-39 yrs) and 900 non-athlete controls (CON).

**Experimental procedure:** Subjects (88%) and 607 controls (70%) completed a detailed questionnaire (training and/or physical activity patterns, menstrual history, oral contraceptive use, weight history, eating patterns, dietary history, and the body dissatisfaction (BD) and drive for thinness (DT) subscales of the eating disorder inventory (EDI)).

**Measures of outcome:** Percent athletes classified as at risk for female athletic triad (FAT), at risk of triad, pathological weight control methods, high body dissatisfaction scores.

### Main finding/s:



Being at risk of the FAT was higher in athletes competing in leanness sports (70.1%) and the CON group (69.2%) compared with athletes competing in non-leanness sports (55.3%) ( $p < 0.001$ ). A higher percentage of athletes competing in aesthetic sports (66.4%) than ball game sports (52.6%) was classified as being at risk of the FAT ( $p < 0.001$ ).

### Conclusion/s:

More than 60% of females (13-39 yrs) sampled were classified as being at risk of developing the female athletic triad, and being at risk of the female athletic triad was more common in females that compete in leanness sports and in non-athlete controls than in athletes competing in non-leanness sports.

**Evidence based rating:** 7/10 **Clinical interest rating:** 8.5/10

**Type of study:** Cross sectional study

**Methodological considerations:** Well conducted descriptive study

**Keywords:** eating disorders, disordered eating, amenorrhea, menstrual dysfunction, low bone mass, osteoporosis