

THE PREVENTION OF ANKLE SPRAINS IN SPORT: A SYSTEMATIC LITERATURE REVIEW

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PROBLEM ANALYSIS/ INCIDENCE/ SEVERITY

70-80% will suffer recurrent sprains

(Smith RW, 1986)

20-30% will suffer chronic instability

(Brand RL, 1977)

>50% with chronic instability do NOT have clinical / radiological evidence of mechanical instability

(Tropp H, 1985; Vaes PH, 1998)

1000,000 ER visits in USA per year
(23,000 sprains per day)

(McCulloch, 1985)

17-21% soccer injuries

(Eksrand and Tropp, 1990)

25% of running and jumping injuries

(Mack, 1992; Keeman, 1990)

53% of basketball injuries

(Garrick and Requa, 1973)

RESULTS

1. Proprioceptive training has been shown to prevent sprains in different sports:

- ❖ Caraffa et al, 1996 – Soccer
- ❖ Myklebust et al, 1998 – Handball
- ❖ Jungle et al, 2000 – Soccer
- ❖ Petersen et al, 2002 – Handball
- ❖ Thacker et al, 2003 – Misc.
- ❖ McGuine TA, 2006 – soccer, basketball
- ❖ Ubell ML et al, 2003

2. Bracing

Both taping and semi-rigid orthoses have shown to reduce incidence of sprains.

(Verhagen EA et al, 2000; Mickel TJ, et al, 2006; Osborne MD, 2003)

The protective effect of "high shoes" remains controversial.

(Quinn K et al, 2000)

There are studies that favor semi-rigid orthoses over taping.

(Handoll HH et al, 2001)

AIM

To investigate whether level 1 and 2 evidence exists that primary and / or recurrent ankle sprains can be prevented in sports.

LITERATURE REVIEW

The following multiple databases were searched: Cochrane Musculoskeletal Injuries Group's specialized register, the Medline, PubMed, Embase and Cinahl search registers (published between 1980 and March 2023).

Only prospective, randomised and quasi-randomized trials (RCTs) were reviewed. Keywords used in the search were "prevention" in combination with "ankle sprains".

Overall, 43 RCTs with data for 46,233 participants were included.

CONCLUSIONS

There is a significant reduction in the no. of primary and recurrent sprains with proprioceptive training.

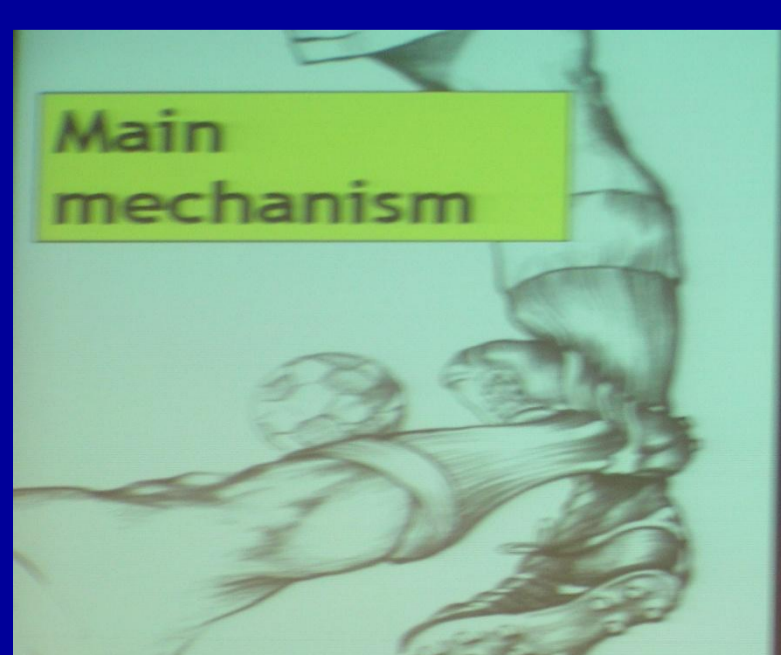
There is a significant reduction in the no. of sprains with external ankle support (semi – rigid support / air-cast) in recurrent sprains

There is limited evidence that braces or strapping should be used prophylactically in PRIMARY PREVENTION.

Although late tackles/ foul play result in the majority of extrinsic sprains in tackling sports, there are no studies which have attempted to change rules or impose harsher penalties.

ETIOLOGY & MECHANISMS

STUDY 1 (Woods c et al, 2003)



59%-contact(extrinsic) (54% - tackles)
39% - non-contact (intrinsic)

STUDY 2 (Anderson et al, 2004)

	N(%)	
Is tackled	10 (38%)	68% extrinsic
Tackling	4 (15%)	
Blocked while shooting/clearing ball	4 (15%)	
running	4 (15%)	23%
Landing after heading	2 (8%)	intrinsic

6/10 were late tackles
4/10 resulted in a penalty / free kick

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