6TH CONGRESS OF ECOSEP

EUROPEAN COLLEGE OF SPORTS & EXERCISE PHYSICIANS

FROM LABS TO THE PITCH

CHU de Liège

FIFA

Liège université

Sports Biomech
Rehabilitation of the common lateral ankle sprain

Aude AGUILANIU
No conflict of interest
REHABILITATION OF ANKLE SPRAIN

Plan

1. A complex injury
2. Rehab or No rehab in the literature?
3. What is the first reflex?
   • Optimal Loading
4. Sensorimotor control
   • Variability of movement
5. Examples of rehab exercises
   • Range of motion
   • Muscle strength
   • Posture balance, Agility, Power
The Lateral Ankle Sprain (LAS) is a complex injury
A continuum of disabilities  (Wikstrom and al. 2013)

Re-injury  
(Martin and al. 2013)

Persistant residual symptoms  
(van Rijn and al. 2008)
Diagnosis, treatment and prevention of ankle sprains: update of an evidence-based clinical guideline

Gwendolyn Vuurberg,¹,²,³ Alexander Hoornjte,¹,²,³ Lauren M Wink,¹,⁴ Brent F W van der Doelen,¹,²,³ Michel P van den Bekerom,⁵ Rienk Dekker,⁶ C Niek van Dijk,¹,²,³ Rover Krips,⁷ Masja C M Loogman,⁸ Milan L Ridderikhof,⁹ Frank F Smithuis,¹⁰ Sjoerd A S Stufkens,¹ Evert A L M Verhagen,³,⁴,¹¹ Rob A de Bie,¹² Gino M M J Kerkhoffs¹,²,³

2018 - Evidence-based clinical Guideline in open access
Rehab or No rehab in the literature?
Rehab or No rehab?

[diagnosis and advice] + Rehab exercises
Rehab or No rehab
What do the studies say?
Bleakley C., Taylor J. and al. 2019

Rehab or No rehab?

9302 articles

7 articles

High level of evidence

RCT
Rehabilitation exercises post ankle sprain

**Decrease** the risk of re-injury (10% at 7-10 month)

*(Bleakley C., Taylor J. and al. 2019)*

**But**

Which exercises ?
How many time they do exercises ?
What is the first reflex?
**RICE** vs. **POLICE**

**RICE**
- R : Rest
- I : Ice
- C : compression
- E : Elevation

**POLICE**
- P : Protection
- OL : Optimal Loading
- I : Ice
- C : compression
- E : Elevation

*PRICE ➔ POLICE*

*(Bleakley, Glasgow, McAuley, 2012)*
Different view of care

OPTIMAL LOADING

RICE
Binary progress

Rest = Unload

Then

Load

VS.

POLICE
Steady progress

Optimal Loading

Unload

Protection

Load

PRICE → POLICE
(Bleakley, Glasgow, McAuley, 2012)
RICE

⚠️

TOO LONG

period of unload

Immobilization

No more than 10 days

(Vuurberg, Hoornaert, Wink and al. 2018)

POLICE

Gradually load

Functional support

exercise therapy

(Bleakley, Glasgow, McAuley, 2012)
Sensorimotor control
3 MAIN INFLUENCES

Organism

Sensorimotor Control

Task

Environment

(Wikstrom, Hubbard-turner, Mckeon, 2013)
GOAL-oriented rehabilitation

Ability to accomplish a movement goal in VARIETY of ways

(Wikstrom, Hubbard-turner, Mckeon, 2013)
Examples of rehabilitation exercises
Global mobility (alphabet exercise)  
Muscle stretch (calf stretch)  
Arthrokinematic (joint glide)

(Cleland, Mintkent and McDevitt, 2013)
Muscle strength
Optimal loading

Increase load
Adapt intensity
Adapt volume
Add progressively perturbations/difficulties

Learning with constraints
Postural balance
GROUND VARIABILITY
When we do Rehabilitation exercises

Keep in mind what is going on the field

VARIATIONS and ADAPTATIONS
Rehabilitation exercises for ankle sprain? **YES**

with

Protection

Optimal loading

Variations and adaptations
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