



# CONCLUSIONS:

## What have we learned from today?

**Mati Arend, MSc, COMT**

University of Tartu

Institute of Sport Sciences and Physiotherapy.

Tartu University Clinic's Sports Medicine Department



The 27<sup>th</sup> February 2016 Tartu, Estonia

# Preventing Low Back Pain in Sports



Peter Halén  
Cert. Sports Physiotherapist OMT

The Finnish Sports Physiotherapists Association, FSPA

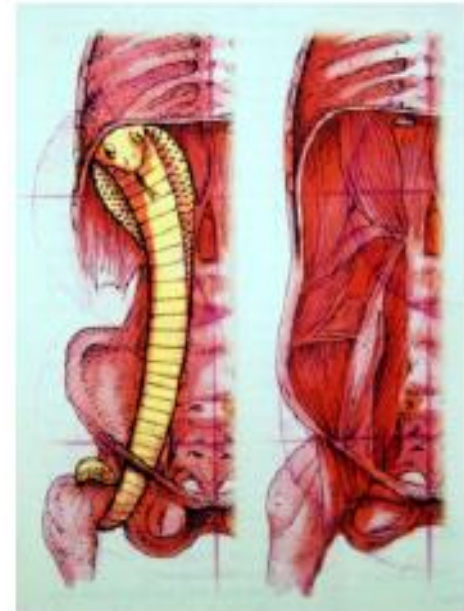
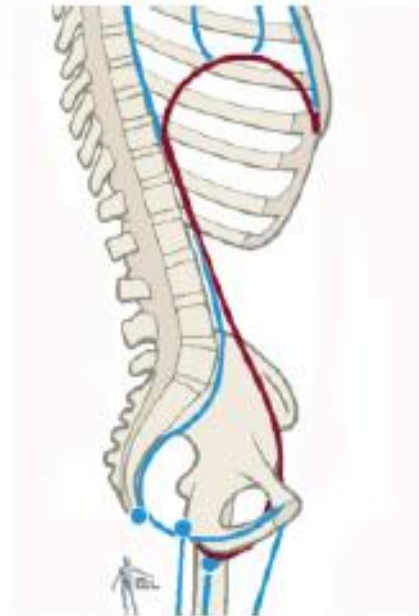


Athletic low back pain is primarily a  
movement quality and control problem



# The Inner Cobra

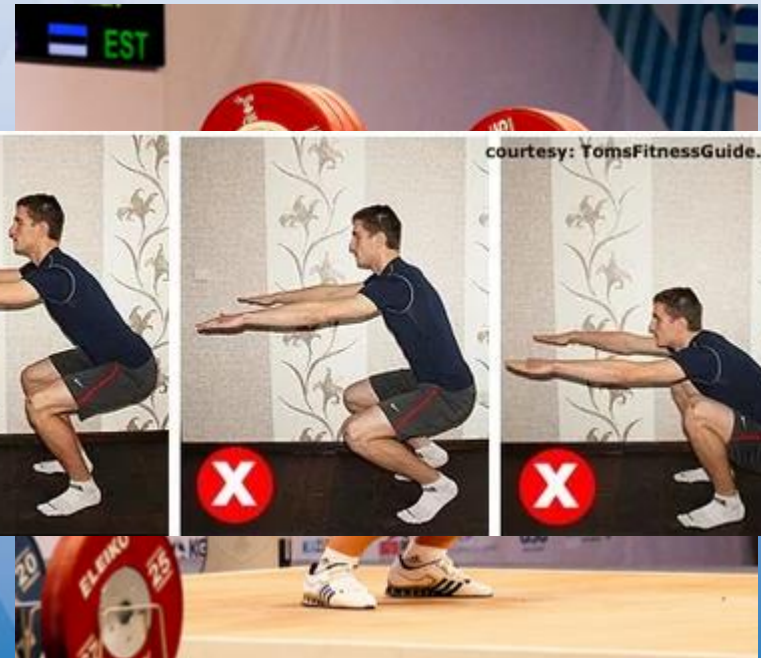
- Considered as a functional whole, the balance of these two muscles (PM & Diaphragm) is essential for respiratory and spinal health.
- Get the balance and function of these two cobras correctly, and it will matter less whether your patient has 'washboard' abs or 'washtub' abs.
- **With a strong and balanced cobra, tight abs are less necessary to upper body support.**







# Misconceptions?



# Preventing Shoulder Injuries

Kestutis Laurinskas

Lithuanian Olympic Team

Physical therapists are health care professionals who restore, maintain and improve movement..











# Keep the pace

- “The objective of injury prevention strategies is to ensure that tissue adaptation stimulated from exposure to load keeps pace with, and ideally exceeds the accumulated tissue damage.”
- *Stuart McGill, Ph.D.*

# Reduce the risk with ..

- IF I could choose one movement pattern for correction – I would prefer .. Rolling movement pattern:
- – synkinesis of eye neck and upper limb movement;
- – Thoracic spine mobility;
- – Core stability;
- – Disociation of upper and lower limbs..

IJSPT

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## CLINICAL COMMENTARY

### ROLLING REVISITED: USING ROLLING TO ASSESS AND TREAT NEUROMUSCULAR CONTROL AND COORDINATION OF THE CORE AND EXTREMITIES OF ATHLETES

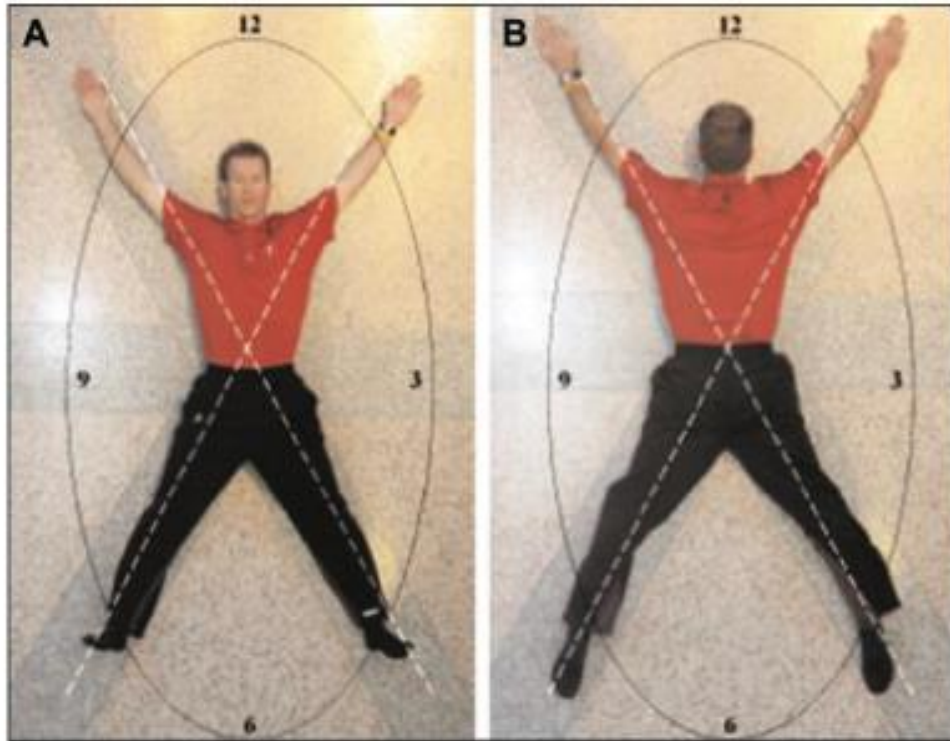
Barbara J. Hoogenboom, PT, EdD, SCS, ATC<sup>1</sup>

Michael L. Volght, PT, DHSc, OCS, SCS, ATC, CSCS, FAPTA<sup>2</sup>

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The rolling patterns can function as a basic assessment of the ability to shift weight, cross midline; and coordinate movements of the extremities and the core (Hogenboom, 2015).



# Preventing knee and ankle injuries

Rolandas Kesminas PT, MS

2016.02.27

Tartu

# My assesment

- FB but stop before pain/stretching
- Extend the head/cervical spine



## Which screening tools can predict injury to the lower extremities in team sports?: a systematic review.

- [Sports Med.](#) 2012 Sep 1;42(9):791-815. [Dallinga JM<sup>1</sup>](#), [Benjaminse A](#), [Lemmink KA](#).
- General joint laxity, hyperextension of the knee
- Star excursion balance test (SEBT) may predict leg injuries.
- Lower hamstring/quadriceps (H : Q) ratio
- Decreased range of motion (ROM) of hip abduction
- Side-to-side differences in anterior-posterior knee laxity
- Differences in knee abduction moment between both legs are suggested to be predictive tests for sustaining an ACL injury and height was a predictive screening tool for knee ligament injuries.
- There is some evidence that when age increases, the probability of sustaining a hamstring injury increases.
- Hamstring flexibility (Debated predictive screening tool)
- Body mass index and the age of an athlete could contribute to an ankle sprain.
- There is support in the literature to suggest that greater strength of the plantar flexors may be a predictive measure for sustaining an ankle injury.
- Postural sway is a predictive test for an ankle injury.

# Single leg squat/Single leg hop





# The effectiveness of exercise interventions to prevent sports injuries: a systematic review and meta-analysis of randomised controlled trials

Jeppe Bo Laursen, Ditte Marie Bertelsen and Lars Bo Andersen  
*Br J Sports Med* published online October 7, 2013

- **Conclusions:**
  - Physical activity can significantly reduce sports injuries
    - Acute injuries
    - Overuse injuries reduced by half
- **Not effective**
  - Stretching
  - Multiple exposure programs – emphasis on single effective...
  - Proprioception
  - Strength training – remains crucial
- **Most effective**

# The effect of physiotherapy program on the performance of elite 15 years old lithuanian basketball players

Assoc. Prof. Laimonas Šiupšinskas PT, PhD



LITHUANIAN UNIVERSITY  
OF HEALTH SCIENCES



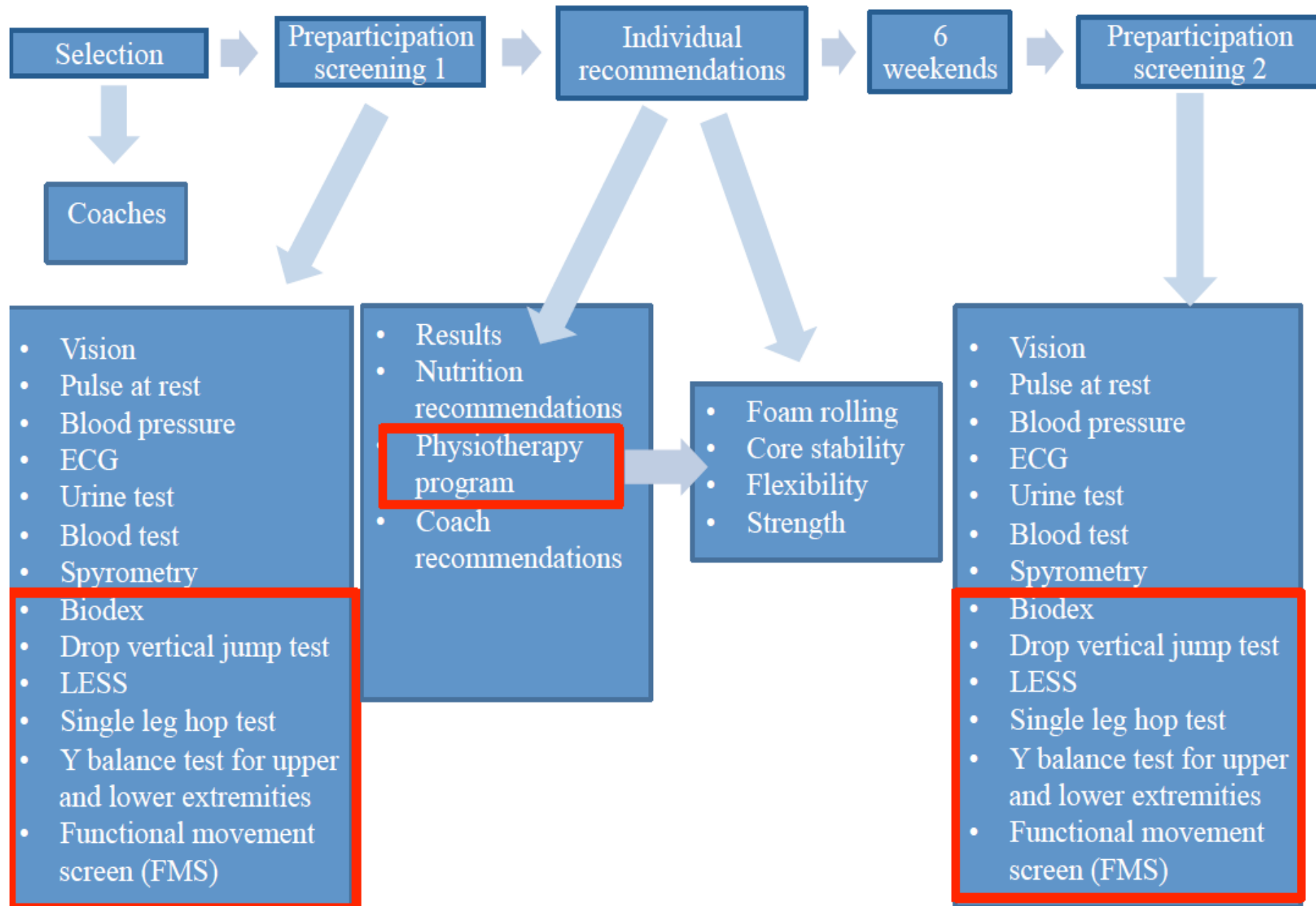
HOSPITAL OF LITHUANIAN  
UNIVERSITY OF HEALTH SCIENCES

KAUNO  
KLINIKOS



LITHUANIAN BASKETBALL  
FEDERATION

# Study design



# Foam rolling





# Core stability

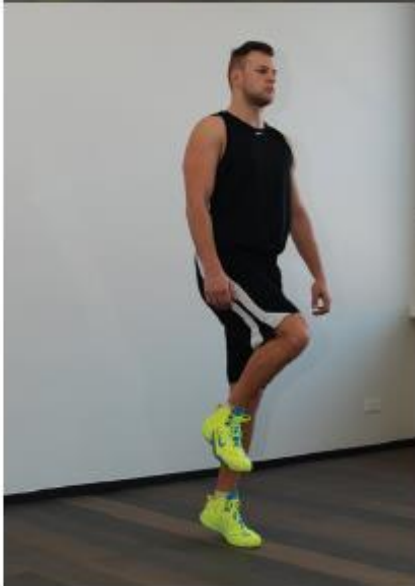




# Flexibility



# Strength





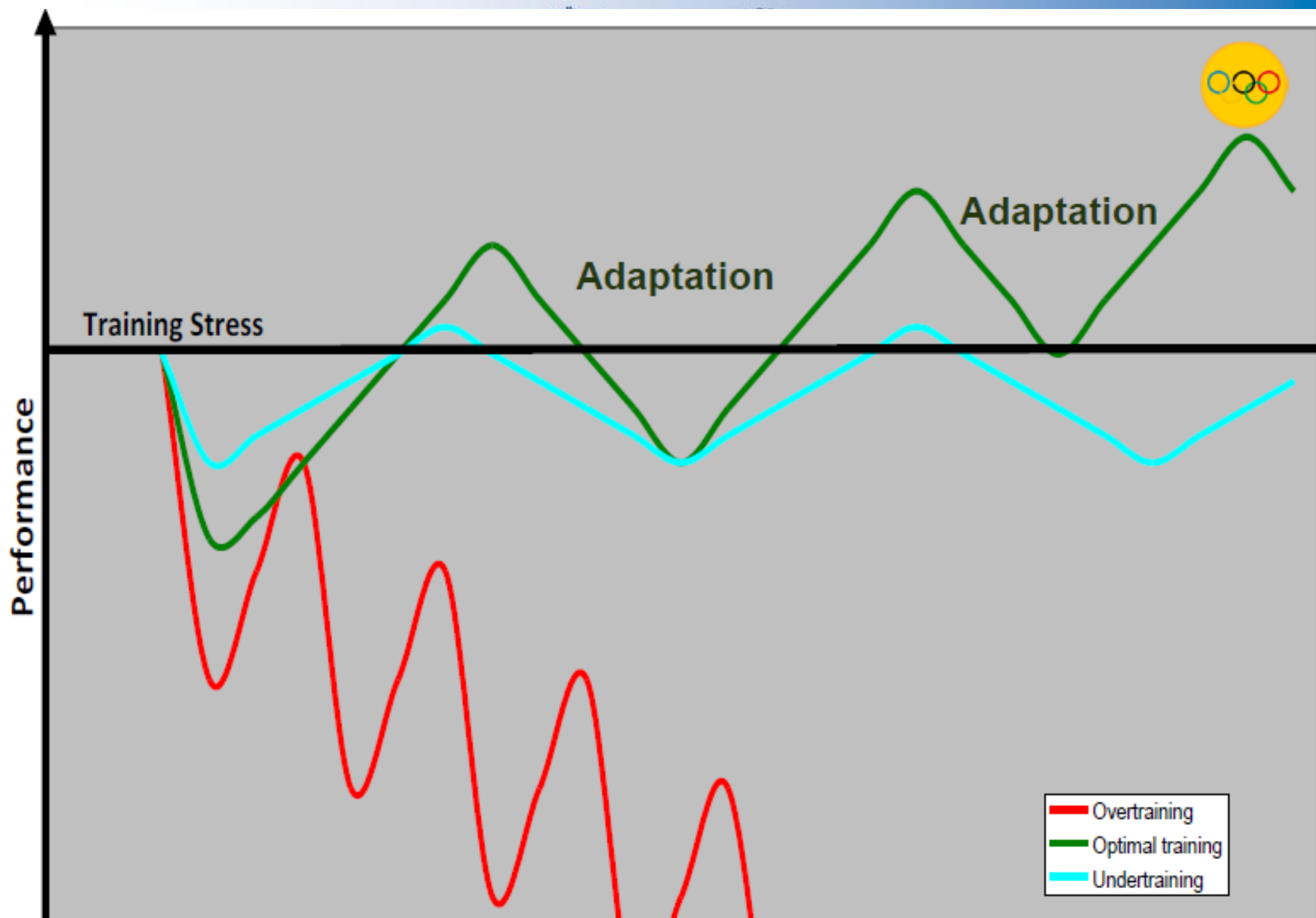
*Jarek Mäestu, PhD*

# Monitoring athlete's training loads

Sports Injury  
Prevention  
Conference,

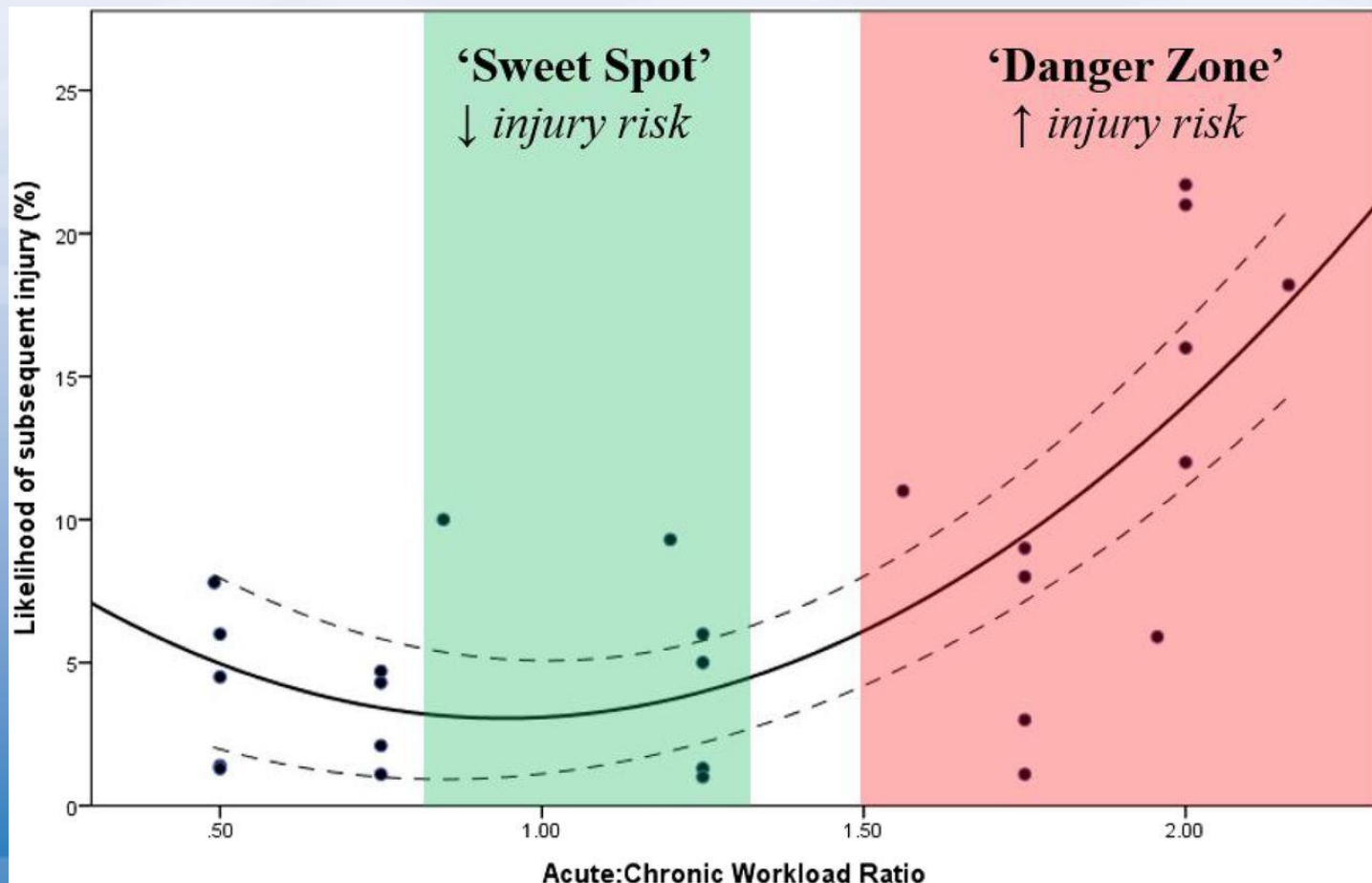
*27 February 2016*

*Tartu*

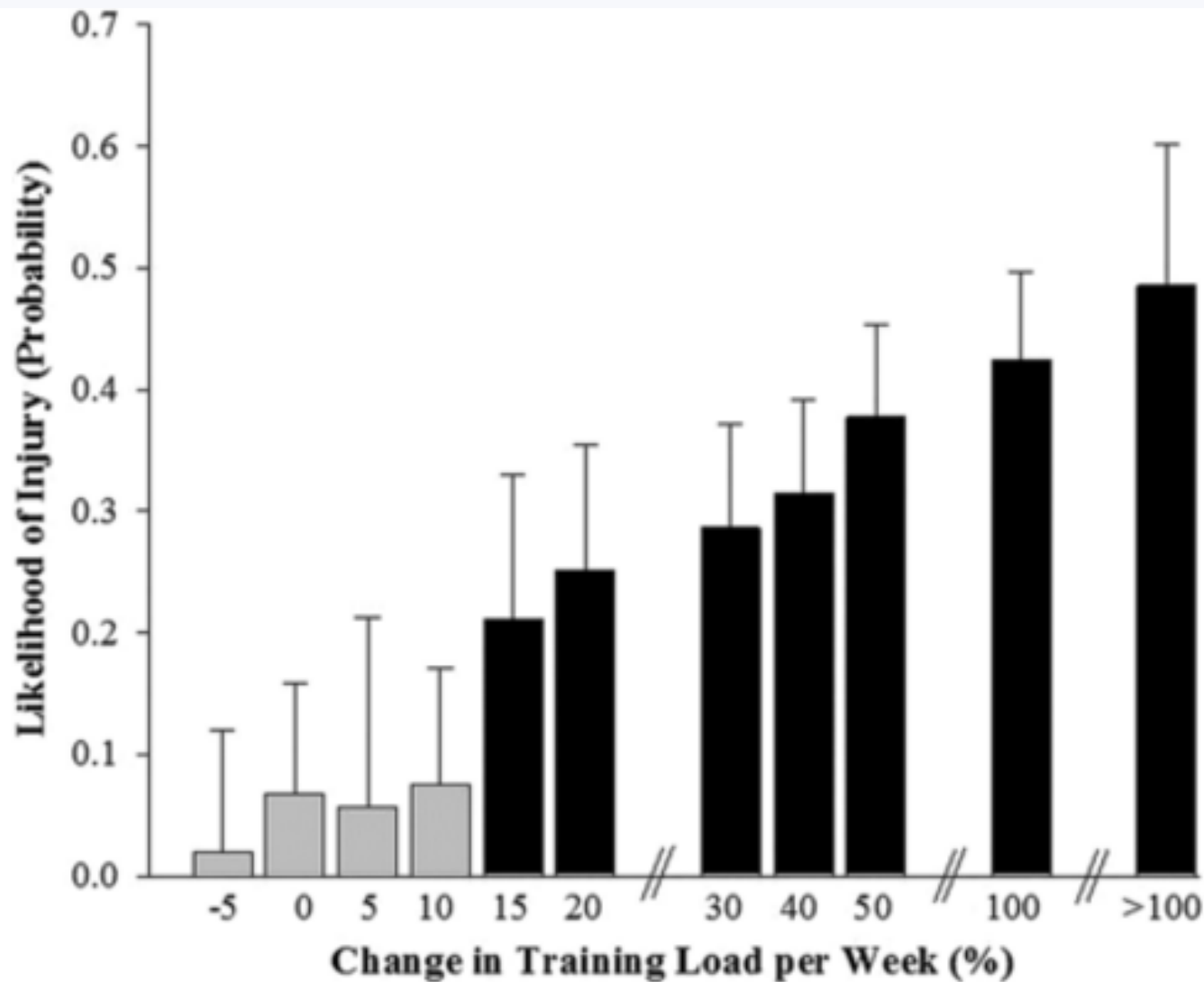




# Guide to interpreting and applying acute:chronic workload ratio data.







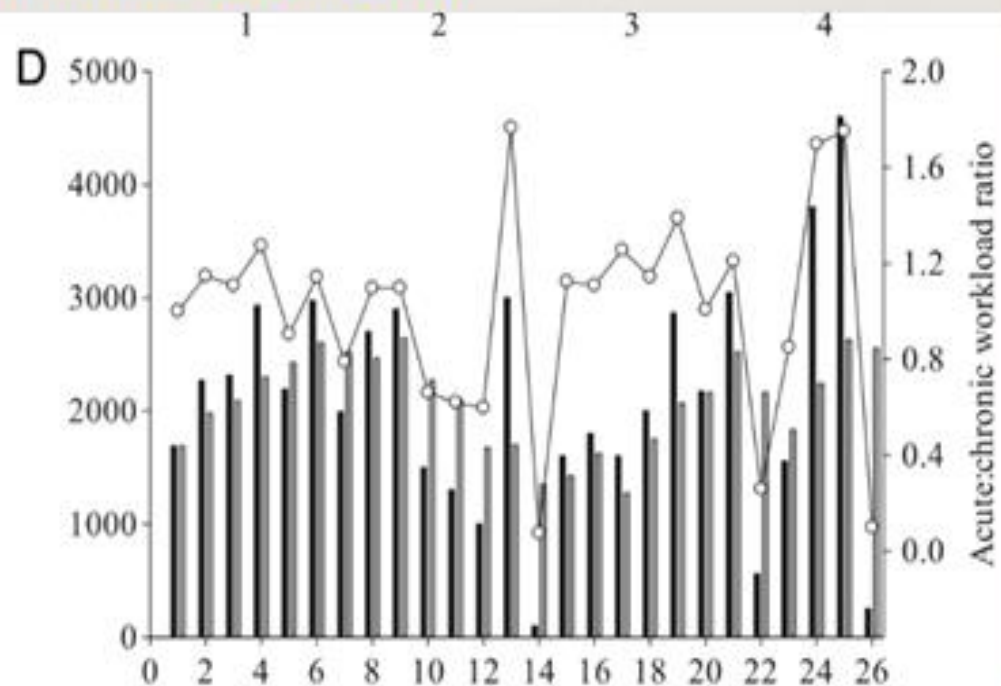
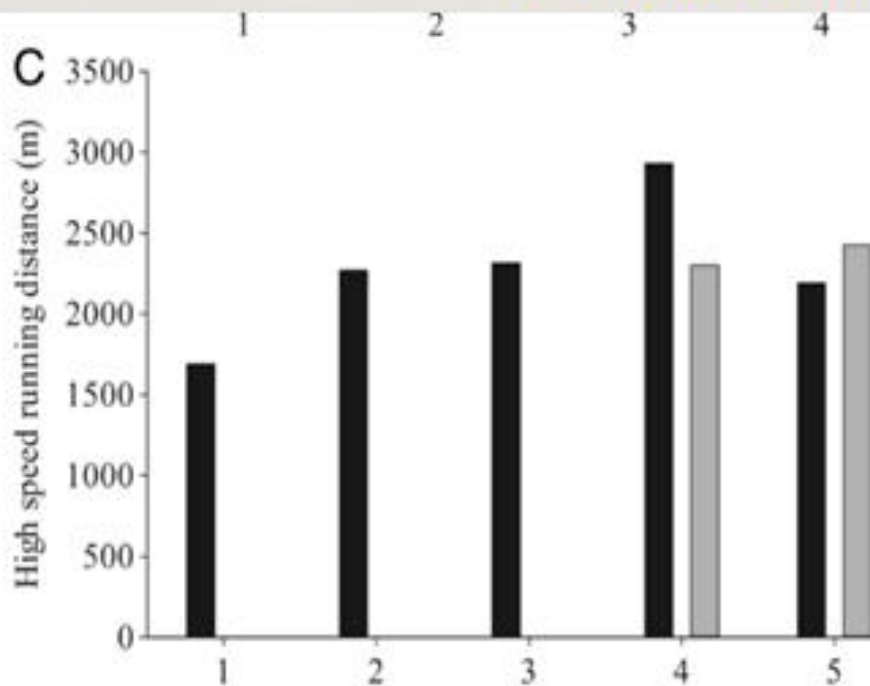
# Continuous overview

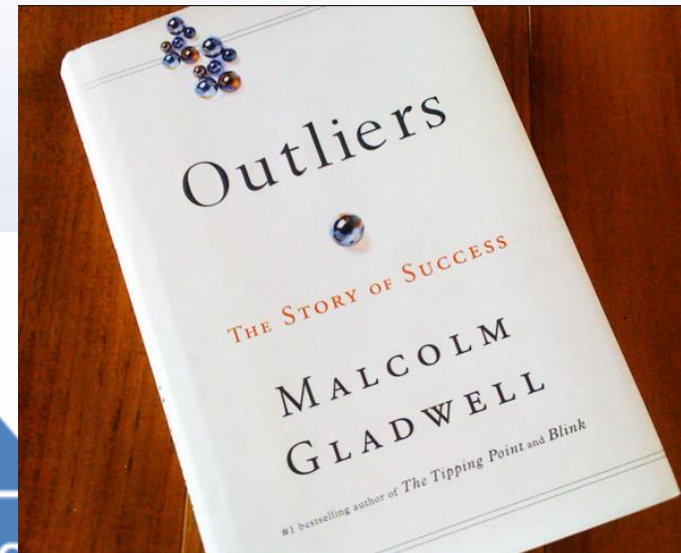
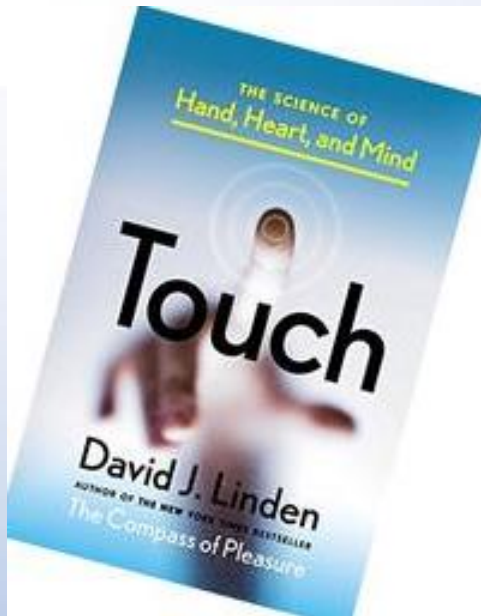
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# Acute vs Chronic Load

- ❖ Acute load - average weekly load      FATIGUE
- ❖ Chronic load - average of previous 28-40 days      FITNESS

**Emphasises the load that the athlete has performed relative to what he/she has prepared for**







# Evidence-based hamstring injury prevention is not adopted by the majority of Champions League or Norwegian Premier League football teams: the Nordic Hamstring survey

Roald Bahr<sup>1,2</sup>, Kristian Thorborg<sup>3,4</sup>, Jan Ekstrand<sup>5</sup>

## Abstract

**Background** The Nordic hamstring (NH) exercise programme was introduced in 2001 and has been shown to reduce the risk of acute hamstring injuries in football by at least 50%. Despite this, the rate of hamstring injuries has not decreased over the past decade in male elite football.

**Aim** To examine the implementation of the NH exercise programme at the highest level of male football in Europe, the UEFA Champions League (UCL), and to compare this to the Norwegian Premier League, Tippeligaen, where the pioneer research on the NH programme was conducted.

**Design** Retrospective survey.

**Setting/participants** 50 professional football teams, 32 from the UCL and 18 from Tippeligaen.

**Methods** A questionnaire, based on the Reach, Efficacy, Adoption, Implementation and Maintenance framework, addressing key issues related to the implementation of the NH programme during three seasons from 2012 through 2014, was distributed to team medical staff using electronic survey software.

**Results** The response rate was 100%. Of the 150 club-seasons covered by the study, the NH programme was completed in full in 16 (10.7%) and in part in an additional 9 (6%) seasons. Consequently, 125 (83.3%) club-seasons were classified as non-compliant. There was no difference in compliance between the UCL and Tippeligaen in any season ( $\chi^2$ : 0.41 to 0.52).

**Conclusions** Adoption and implementation of the NH exercise programme at the highest levels of male football in Europe is low; too low to expect any overall effect on acute hamstring injury rates.



# So, can we prevent (overuse) injuries?





# Questions & discussion