



**La Tour**   
SPORT MEDICINE

 **swiss**   
*olympic* | **MEDICAL  
CENTER**

Saas-Fee, March 9th 2016

# Return to play/sport

## Insights into a complex problem

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# How your document works for the curious minds

Click on references → opens relevant internet pages



*Van Mechelen W et al, BJSM 2015*

Or the complete pdf document will open if available



Images contain sometimes hyperlinks, explore your pdf to learn more...

Enjoy!

Boris



RTP

NEXT EXIT

# Consensus RTP Bern 2015

## 2016 Consensus statement on return to sport from the First World Congress in Sports Physical Therapy, Bern

Clare L Arden,<sup>1,2,3</sup> Philip Glasgow,<sup>4,5</sup> Anthony Schneiders,<sup>6</sup> Erik Witvrouw,<sup>1,7</sup>  
Benjamin Clarsen,<sup>8,9</sup> Ann Cools,<sup>7</sup> Boris Gojanovic,<sup>10,11</sup> Steffan Griffin,<sup>12</sup>  
Karim M Khan,<sup>13</sup> Håvard Moksnes,<sup>8,9</sup> Stephen A Mutch,<sup>14,15</sup> Nicola Phillips<sup>16</sup>

FREE

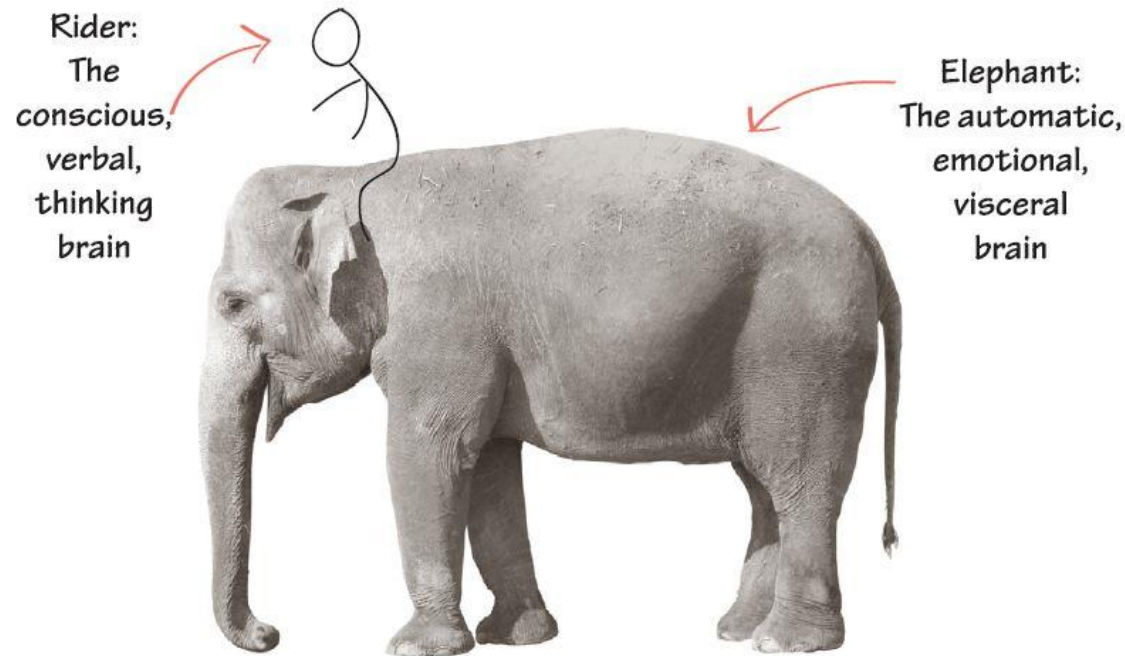
# What is **RTP/RTS** ?

Important to define:

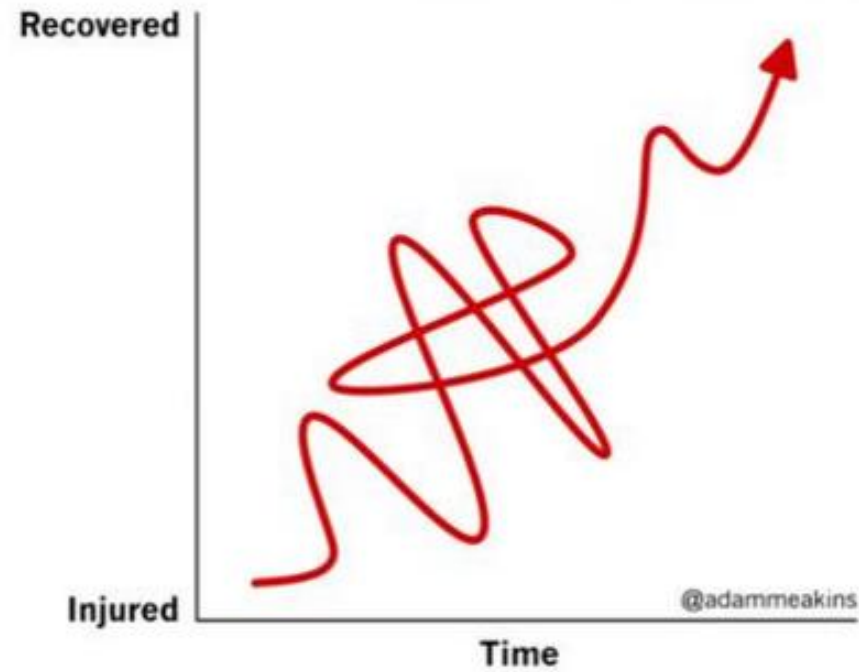
- **Level** of competition
- **Return to what:** play «sports», competition, previous level, continued progress
- Return **for how long**= RTP sustainable?

# How this talk will affect your knowledge or practice re: RTP

You will know more about how to **Ride The Pachyderm**



## The Road to Recovery – Return to Sport



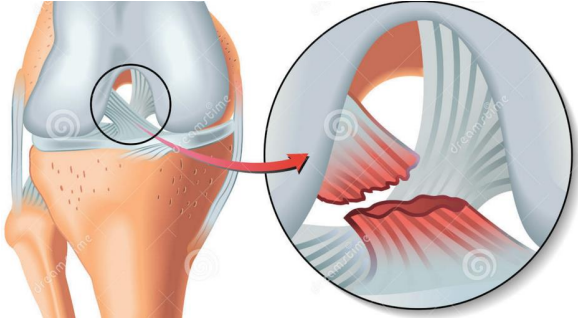
@adammeakins

*BJSM March 2015;49(6)*



# Different, different, but....same

## ACL



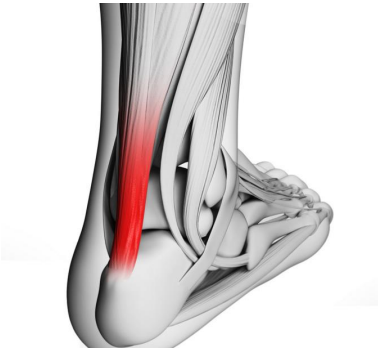
## Muscle



## Concussion



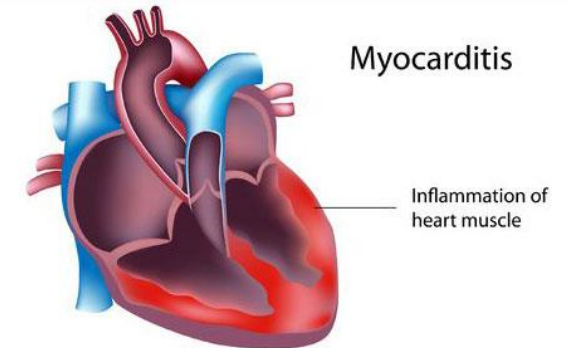
## Overuse



## RED-S

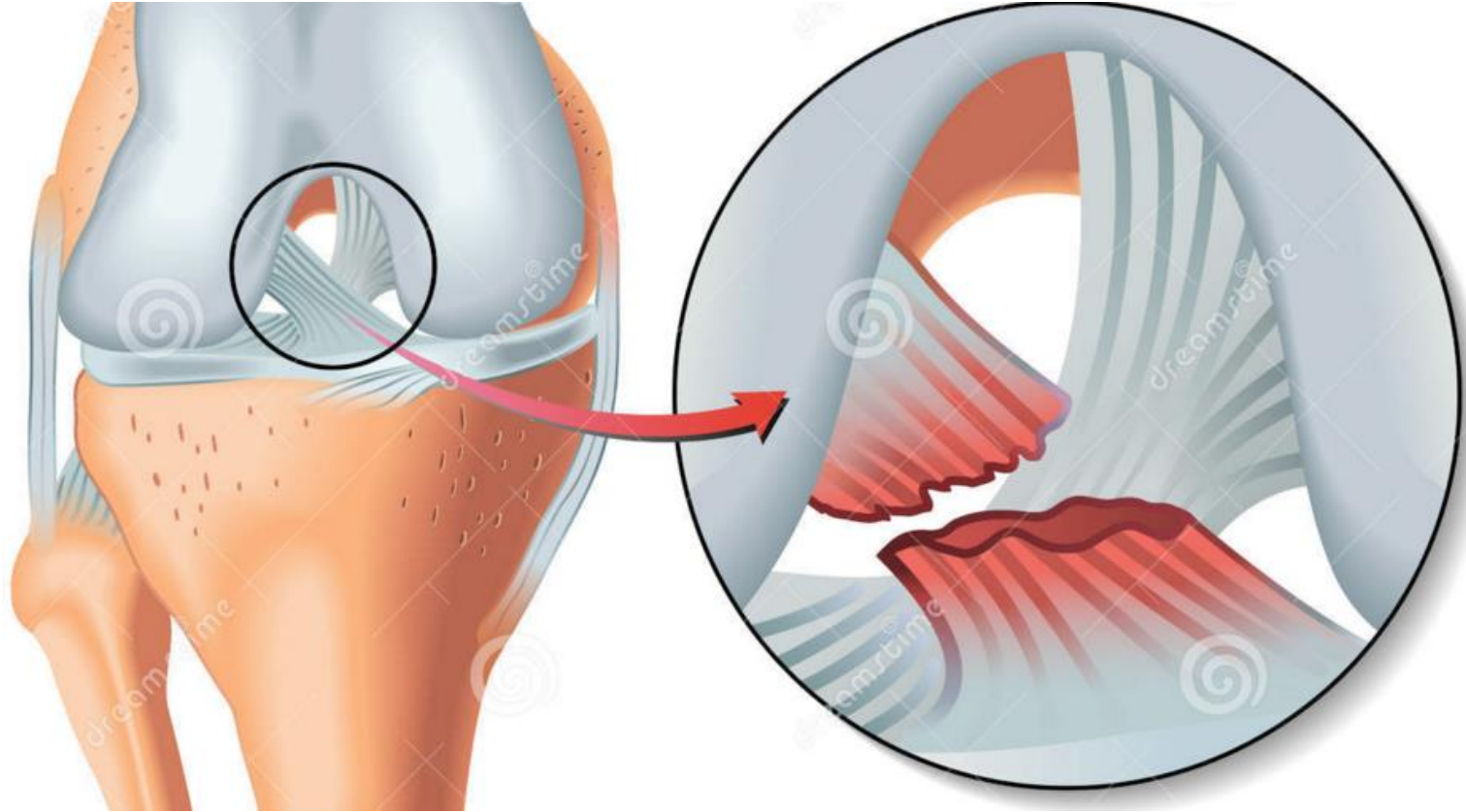


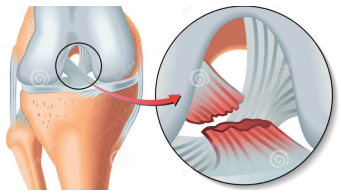
## Infectious



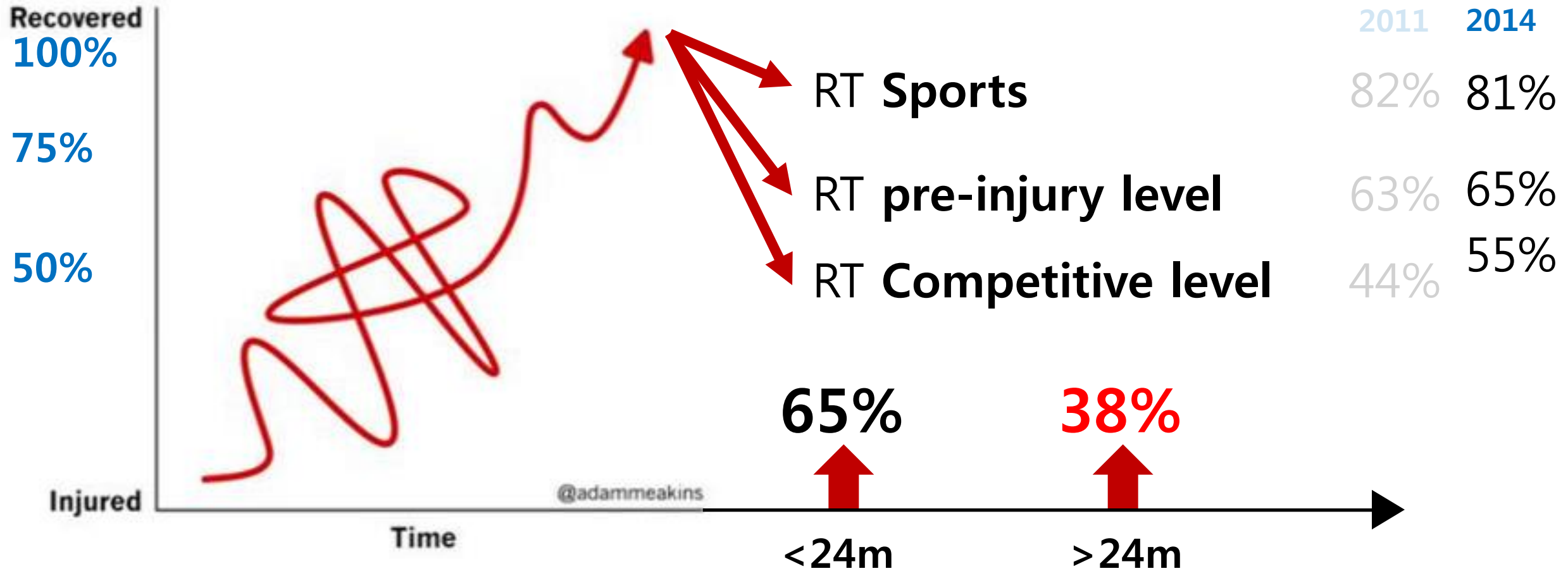


# #ACL



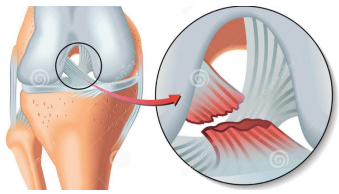


# RTP - What are we talking about ?



*Arder C et al, BJSM 2011;45:596*

*Arder C et al, BJSM 2014;48:1543*



# The **ACL** RTP story

**1.0**

6-9-12  
months

ROM

Swelling,  
pain, laxity

Strength  
quads/ham  
LLSI

Movement  
quality

Hop tests

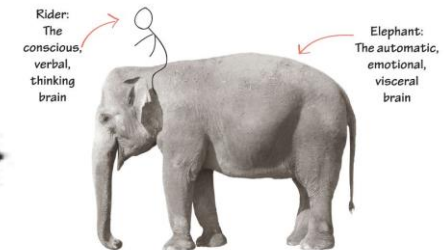
Power &  
balance

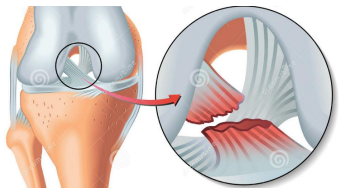
**2.0**

**3.0**

Psychol.  
factors

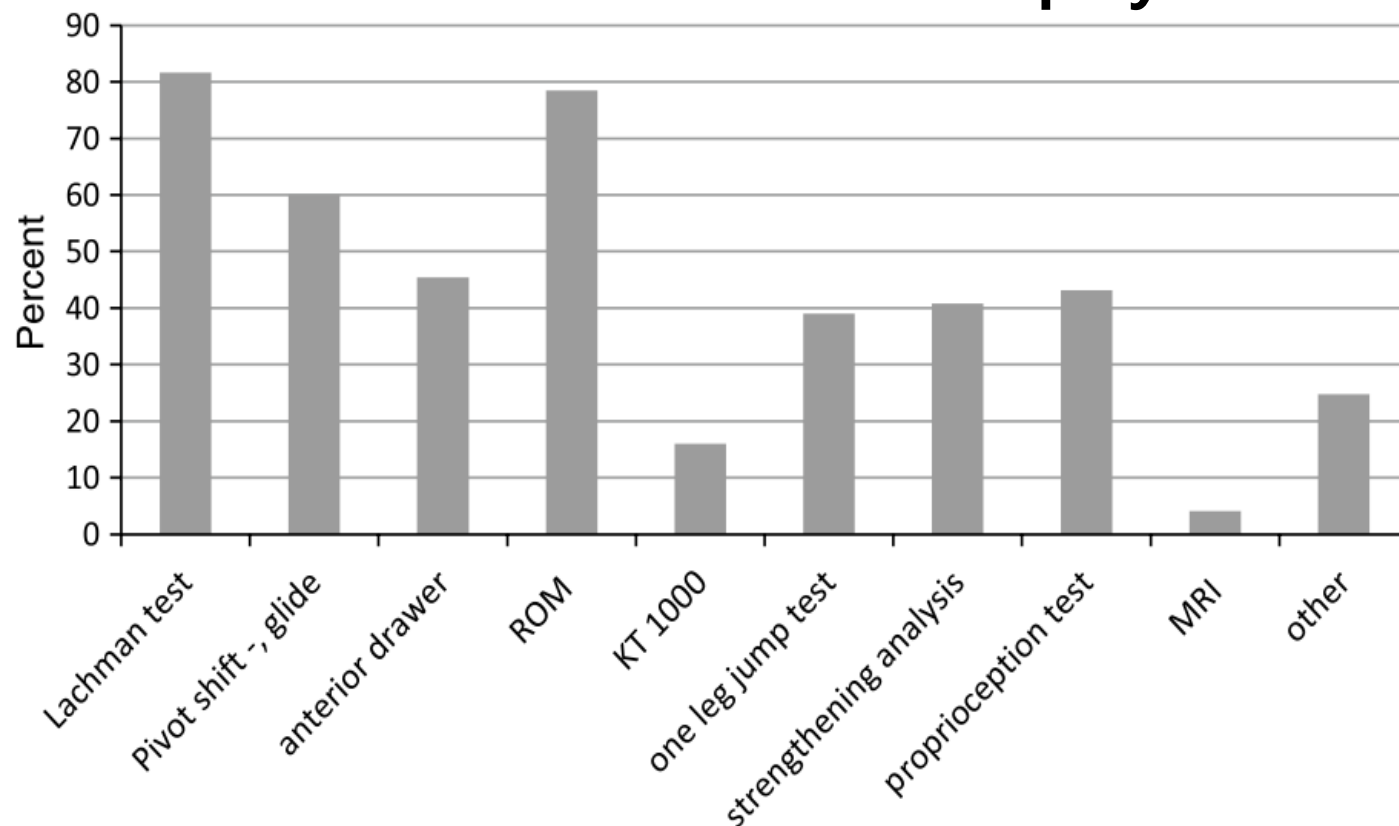
Scores



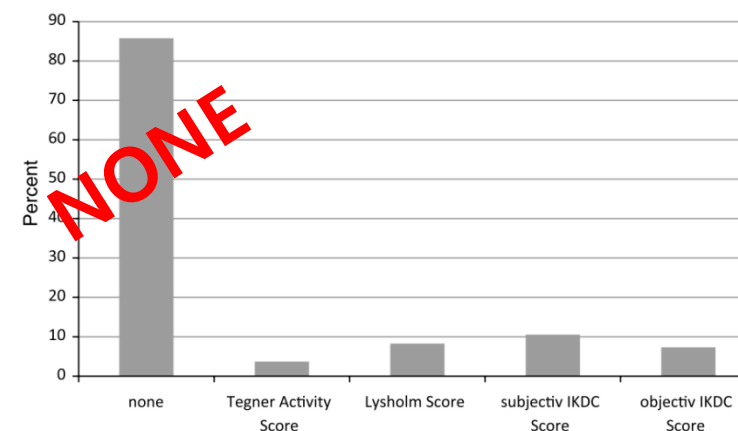


# Survey experienced surgeons – Petersen

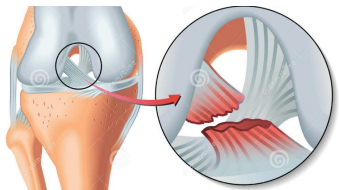
## Criteria for return to play



## Use of clinical score

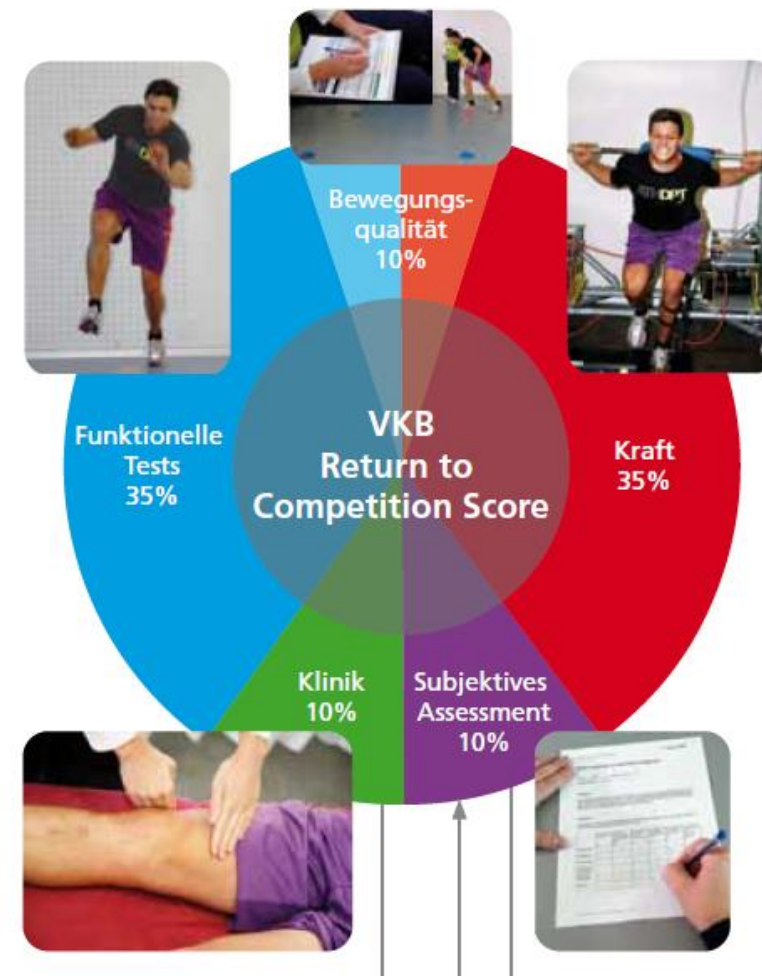


*Petersen, Arch Orthop Trauma Surg 2103;133:959*



# Return to Competition Score - **RTCS**

- Isokin, isometric, power (SJ, CMJ)
- Hops (1, 3), drop jump
- Stabilometry
- Clinical: swelling, ROM
- KOOS-SAS
- Subjective (by tester) movement evaluation



*Kalberer et al, Schw Z Sportmed Sporttrauma 2013*



# Muscle injury - #Hamstring





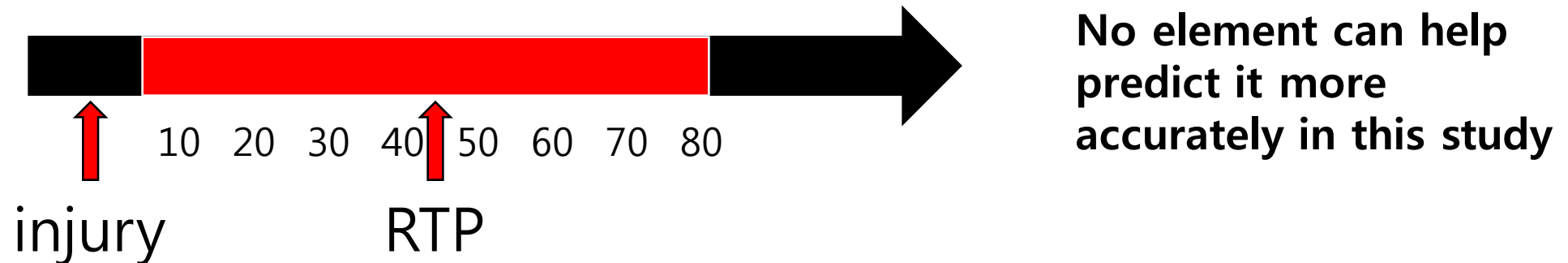


# Time to RTP prediction

**Hamstring acute pain** (history injury, palpation, stretch, contraction, +MRI).

Mean time to RTP = **44±18 days**,

→ **95% of athletes RTP between 8 and 80 days** (mean ± 2\*SD)



*Moen MH et al, BJSM 2014;48(18):1358*

# Try to tell Christian...



Dr Boris Gojanovic @DrSportSante · 29 oct.

Return to play 'Le type qui veut jouer, il joue!' Christian Constantin, Sion FC president

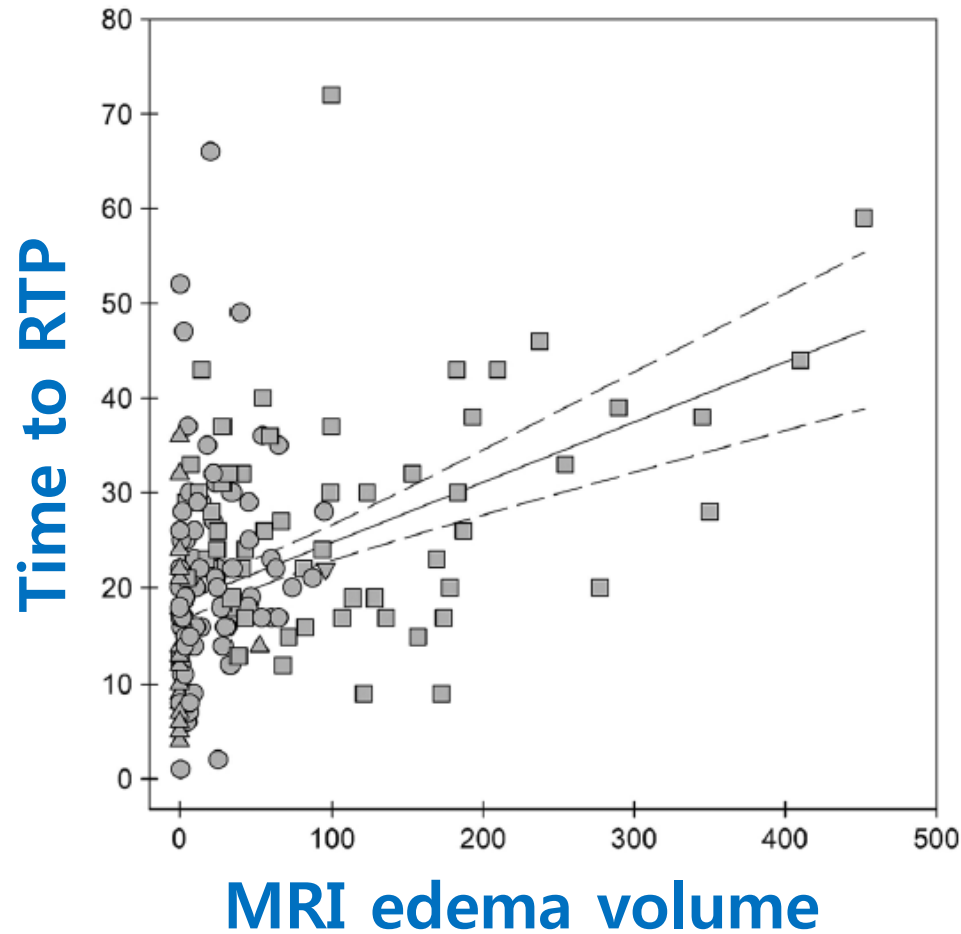


*«After my scientific analysis based on research, my estimation is the player has a 95% chance of RTS within a time frame of 1 to 50 days (but, on average, 24 days).*

*You understand that it is not easy...»*

# Can MRI be predictive ?

**NO**

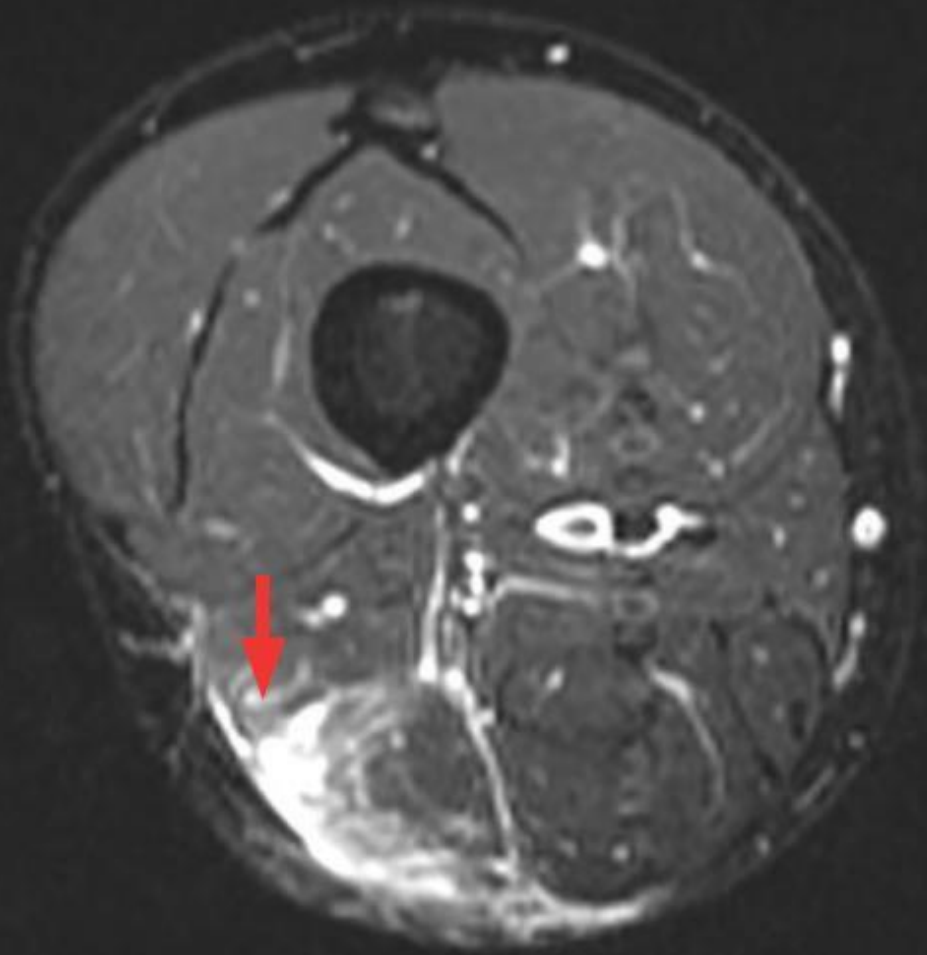


MRI did not add any additional predictive value for time to RTS compared with baseline patient history and clinical examinations alone after acute hamstring injury.

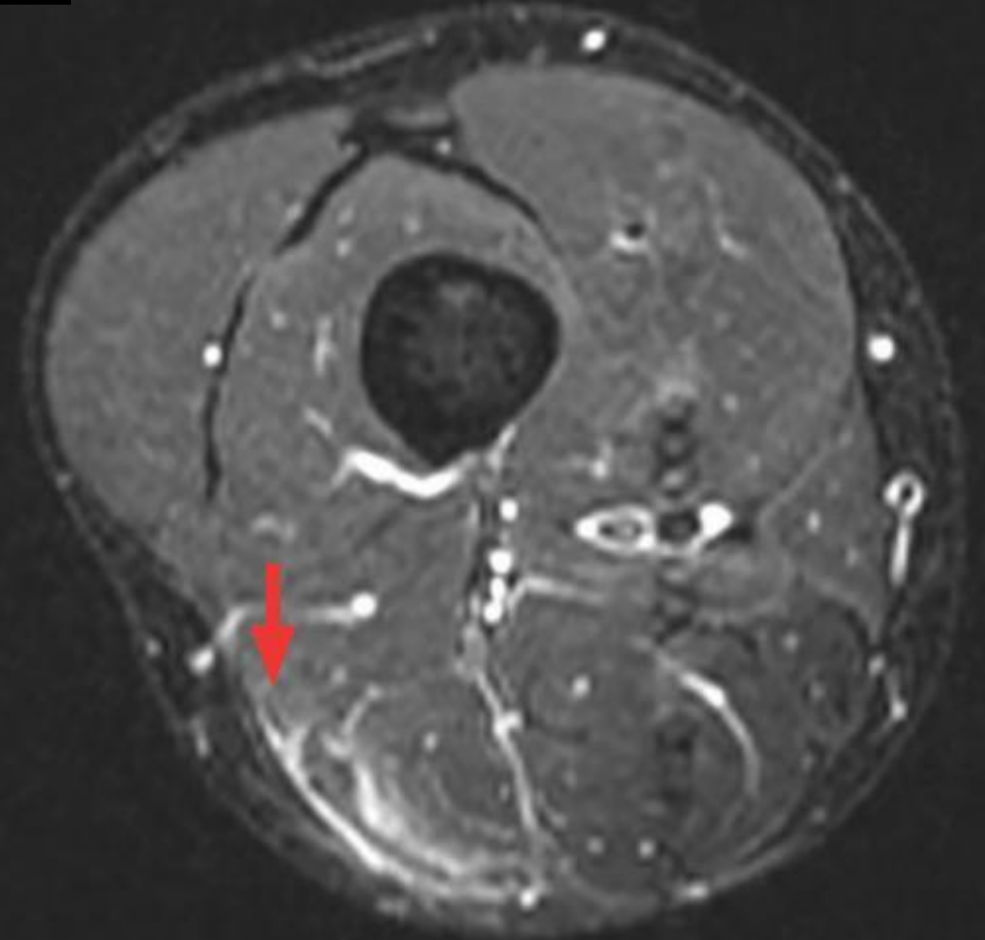


*Wangensteen Arnlaug et al, BJSM 2015;Aug 24*

**INJURY**



**RTP**



# Askling-H test



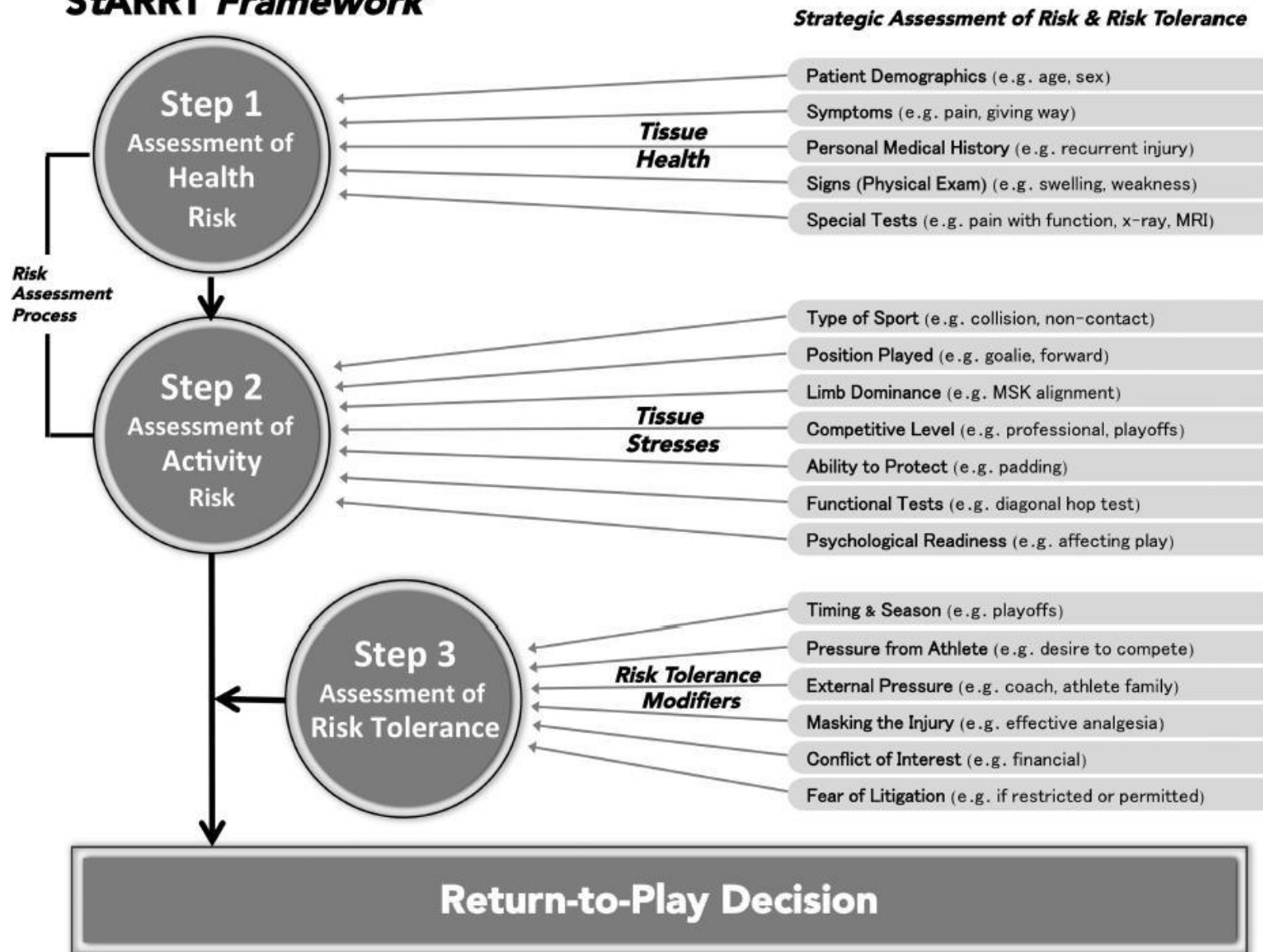
1. Maximal slow active extension
2. Very fast ballistic test

**Symptoms?**

*Askling CM et al, KSSTA 2010;18:1798*



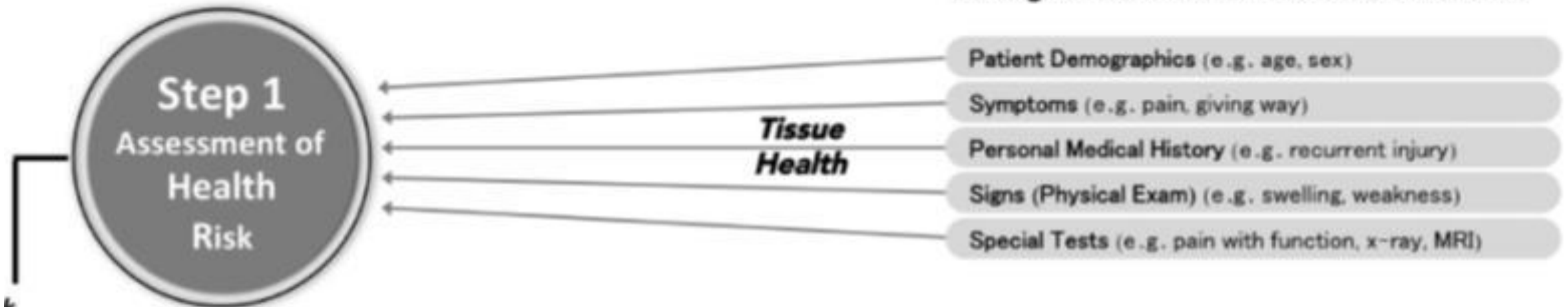
# StARRT Framework



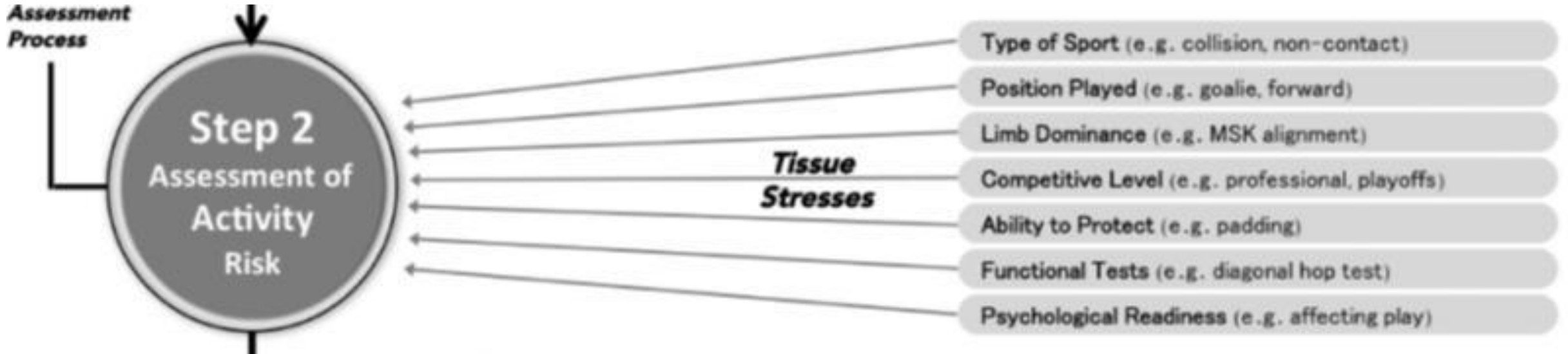


# Step 1 – Tissue health

## StARRT Framework



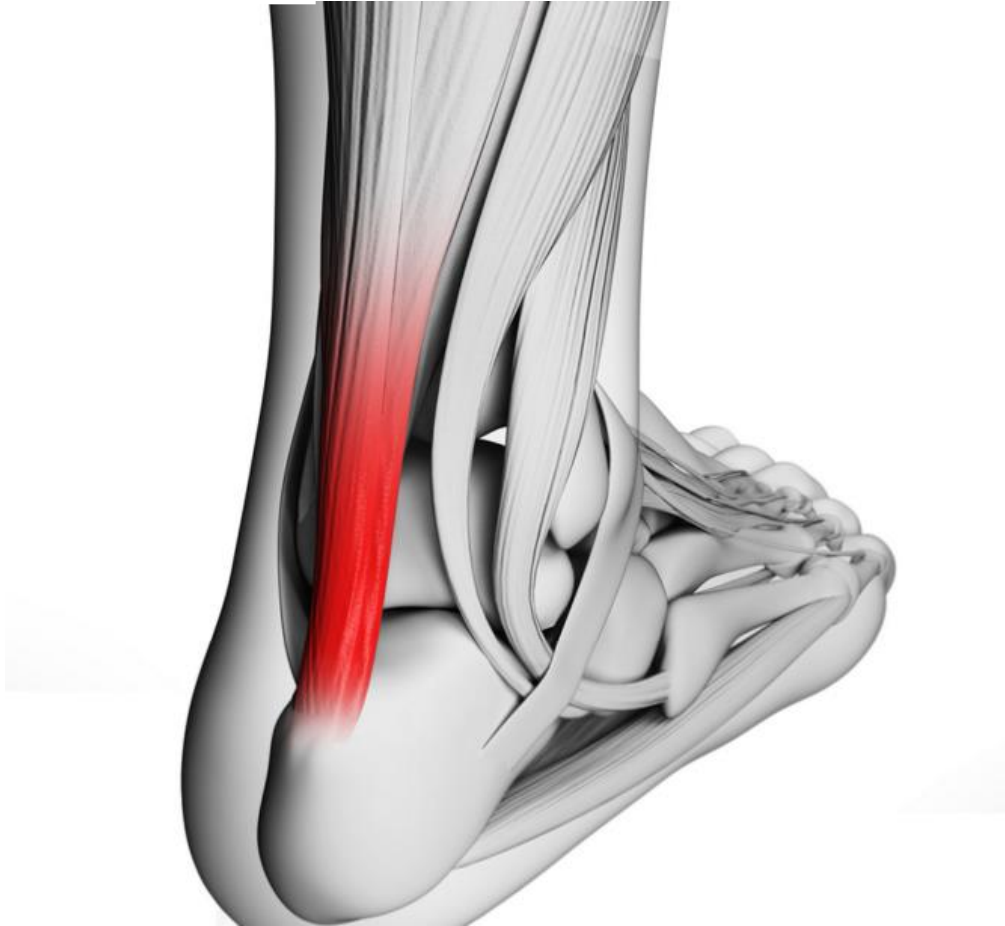
# Step 2 – Tissue stress



# Step 3 – risk tolerance

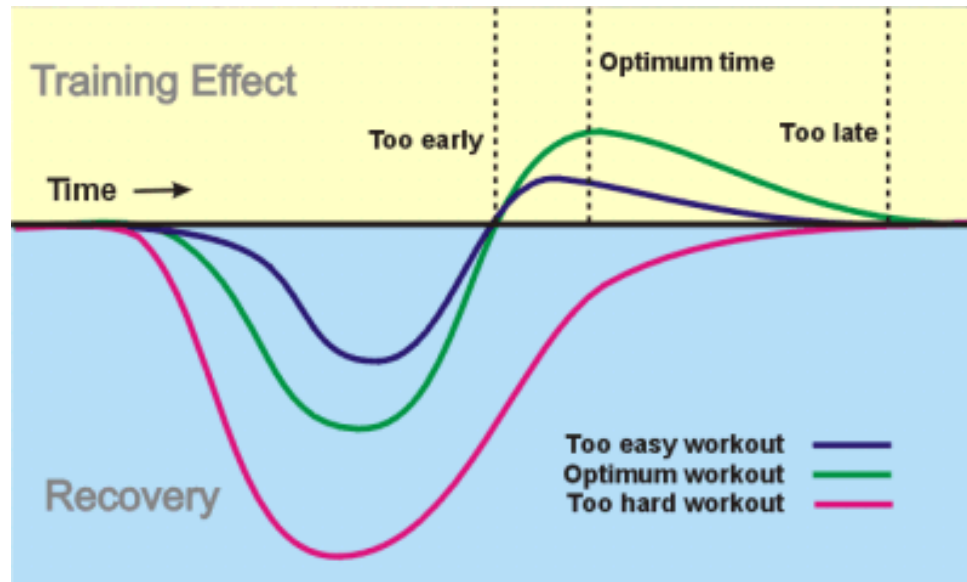


# Overuse



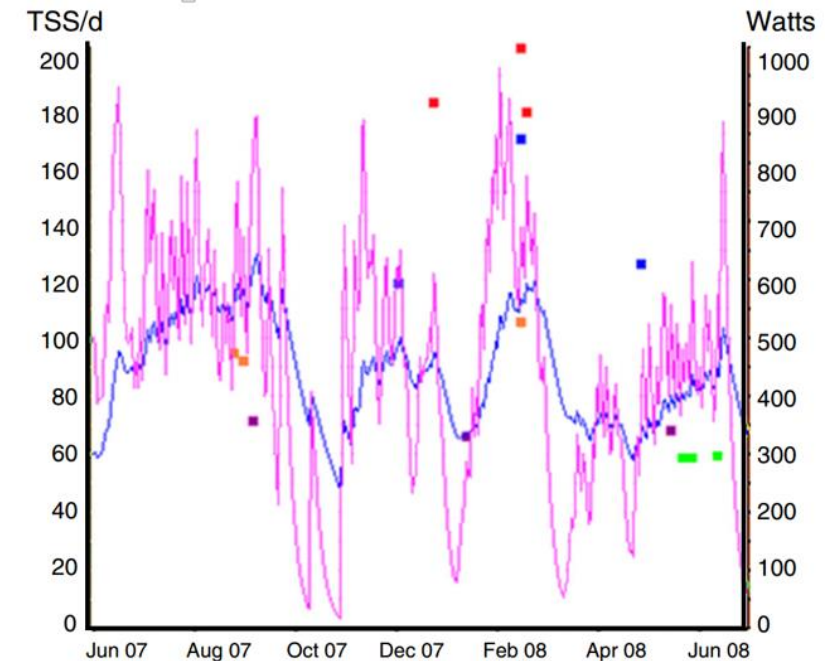
# Restoring the balance

## Managing Load progression



## Tissue/neural adaptation

## Training stress balance Banister model (1975)



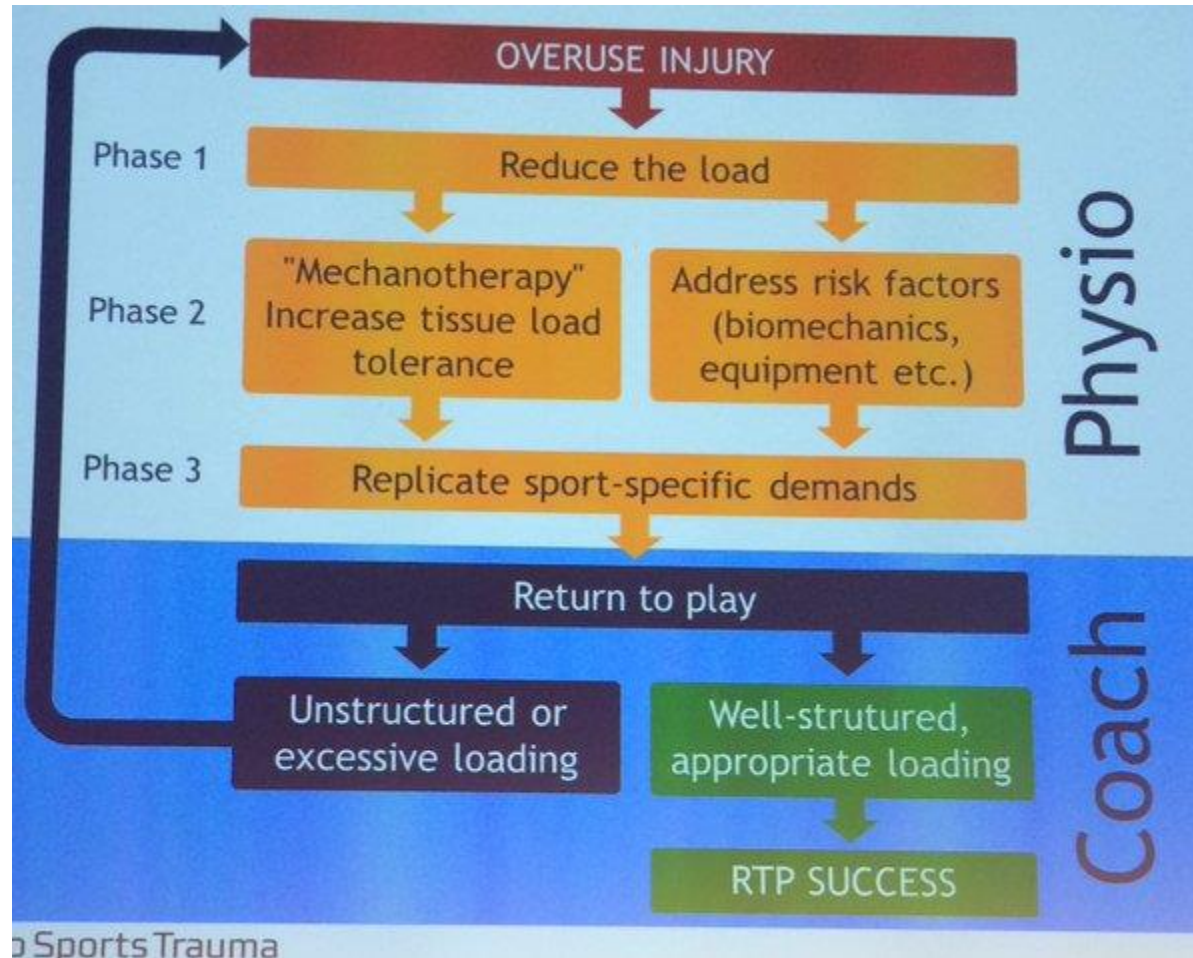
*Halsen S, Sports Medicine 2014;44(2)S139*

# By Ben Clarsen, au Aussie in Norway

Introduces  
the idea of

**RFP**

**Removal  
from play**





*Reduction*

# The Injury ~~Prevention~~ Pyramid

The Sports Physio @adammeakins  
[www.thesportsphysio.com](http://www.thesportsphysio.com)



# Whose decision – **Ian Shrier**



1. Each professional group has more confidence in its capacity to evaluate return-to-play criteria compared to the opinion of other professional groups.
2. Recognition that non-clinicians provide important information for some criteria in return-to-play decisions may lead to improved shared decision-making in sport.

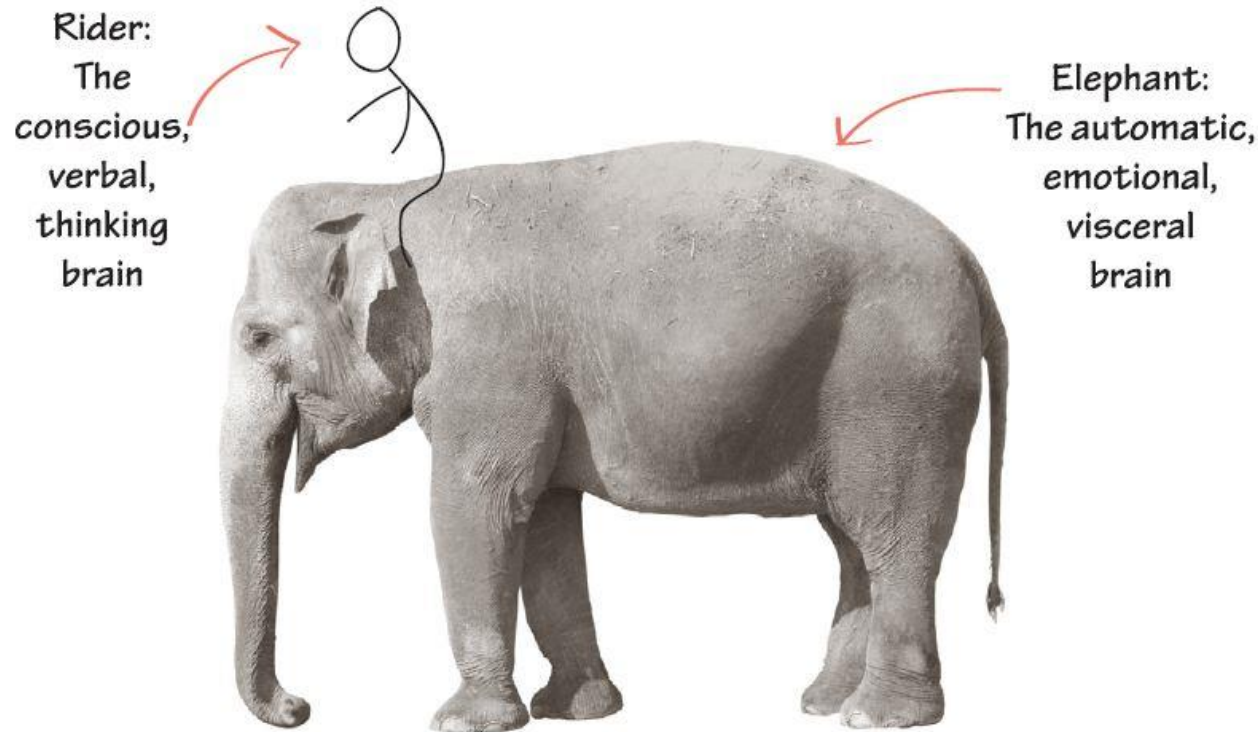
*Shrier I et al, BJSM 2014;48:394*

# Return to play or riding the pachyderm: a call for standards based on Swiss values

Boris Gojanovic<sup>1,2</sup>

## Rational

Accuracy (Dx)  
Road map  
Protocol  
Tools  
Measures  
Integration  
Scores  
Monitor  
Quality control  
Risk assessment



## Emotional

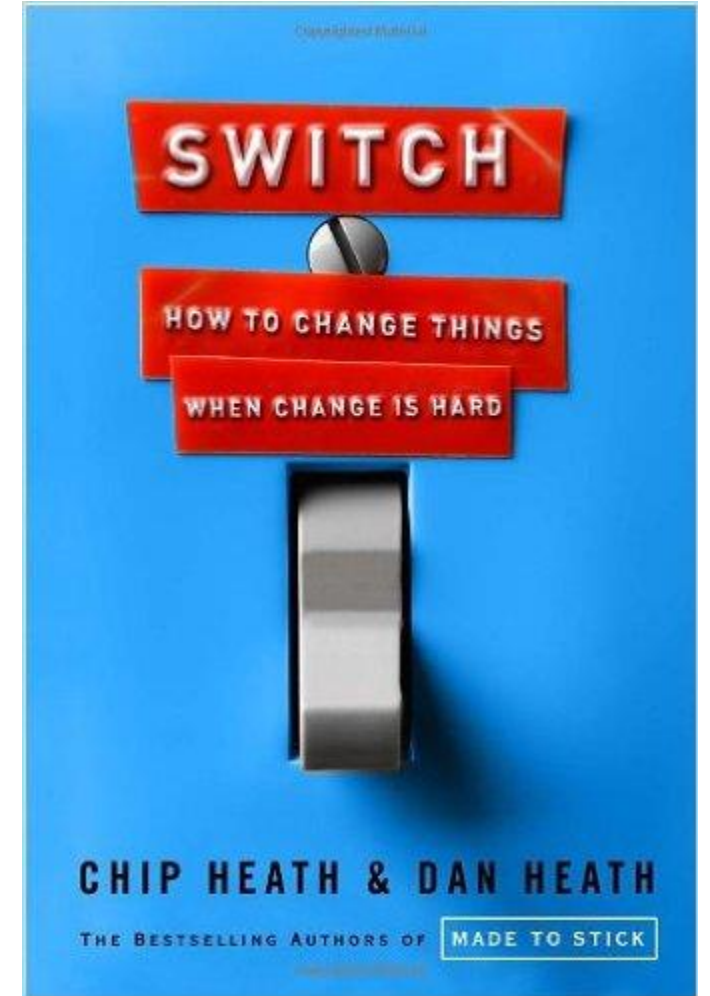
**Athlete**  
Readiness  
Fear, confidence  
Relatedness  
**Elite sports**  
Media, Fans  
Coach  
Nations  
Management  
Sponsors

# «Switch» by the Heath brothers (2010)

The fallacy of decision-making is that one can rationally steer the elephant.

**Chip & Dan Heath advise us to:**

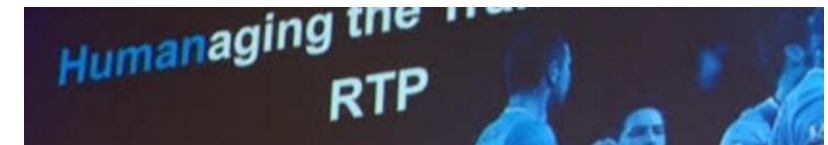
1. Direct the rider
2. Motivate the elephant
3. Shape the path that the pair must follow



# Future path is made of...



1. Athlete **motivation**, social & **psychological** factors  
→ **profiling, coping enhancement** *Ardern CL et al, BJSM 2013;47:1120*
2. **Specific** testing with use of modern wearables  
→ **on field, improve fear of re-injury & self-confidence**
3. Big **data analysis** of individual athlete characteristics (pre/post)
4. **HuMan**agement (thanks Robin Sadler!)
5. **Team** dynamics





# Can you wait one more month, please ?

At 6 month post surgery, every  
month you wait before allowing RTP

=

24 % reduction re-injury



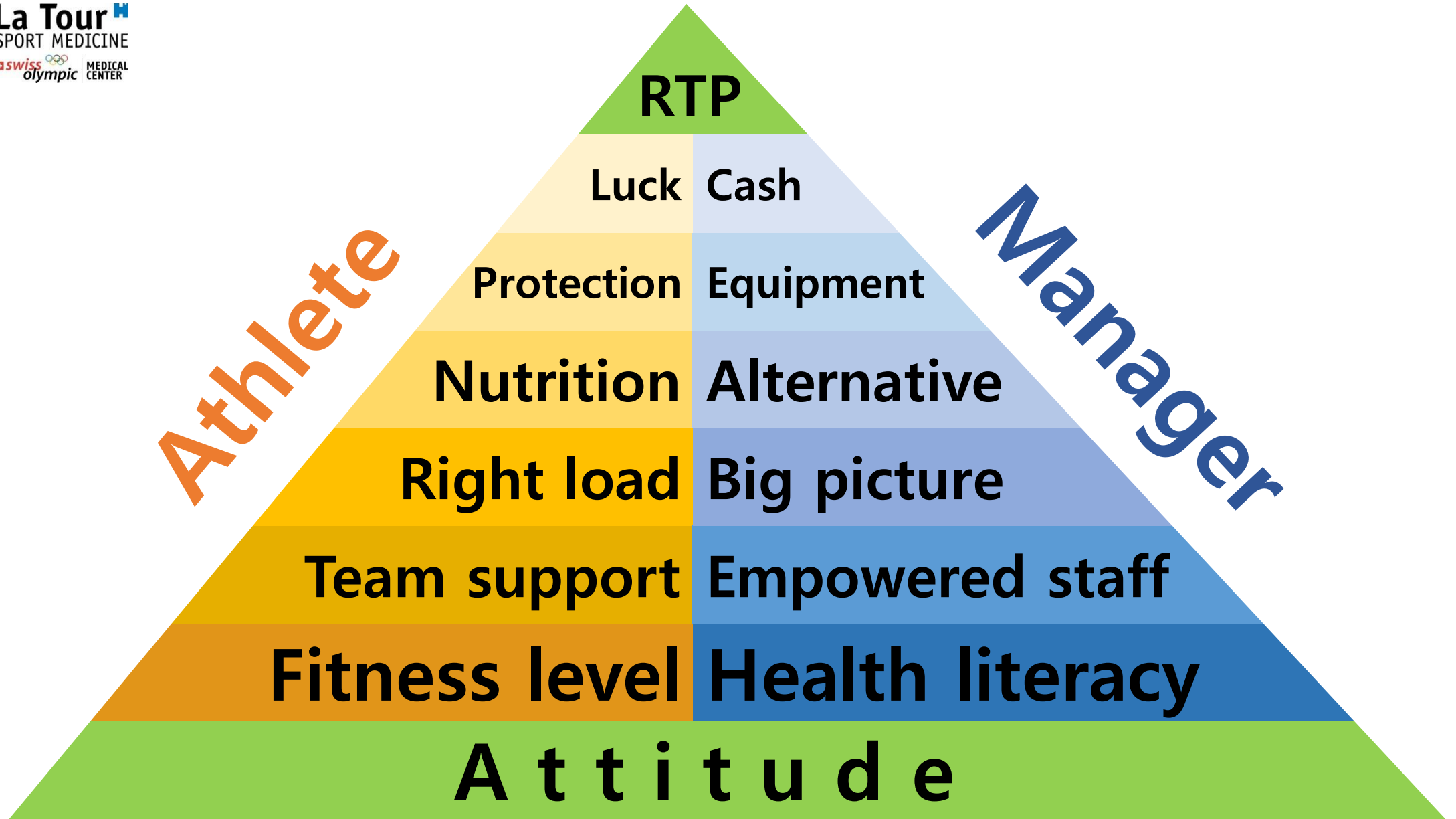
*Havard Moksnes*

# 24%...PER MONTH



# Or a few months to **come back stronger?**





HALF  
FULL



HALF  
EMPTY

# Injury as an opportunity

1. Work on aspects little or not trained until then (technique, education in sports, nutrition, mental)
2. Personal development (school, studies, professional or private/family project)
3. Social/community development → image, brand & contribution



# Time...

Rarely is it spoken about, but athletes can «benefit» from an injury in different ways



# Monitoring et visualisation hebdomadaire de la progression du RTP

Case: ACL reconstruction RTP  
Sports: soccer (Div. 1)

Case manager: [Physio/Physician/Other - name]  
Surgeon: [Dr name]

Injury date: 05/09/15  
Operation date: 08/09/15

On dd/mm/yy

## GOAL 1

Physiotherapist

Range of motion 100% completed at week 7

Week 23: [comments by clinician] 30/10/15

## GOAL 2

Athletic trainer

Lower limb strength 76%

Week 23: [comments by clinician] dd/mm/yy

## GOAL 3

S&C coach

Endurance fitness 85%

Week 23: [comments by clinician] dd/mm/yy

## GOAL 4

Sports psychologist

Psychological readiness (ACL-RSI) 45%

Week 23: [comments by clinician] dd/mm/yy

## OPTIONAL GOAL

Visual tracking coach

New skill acquisition (e.g., 3D visual tracking) 80%

Week 23: [comments by clinician] dd/mm/yy

## OPTIONAL GOAL

Athlete development

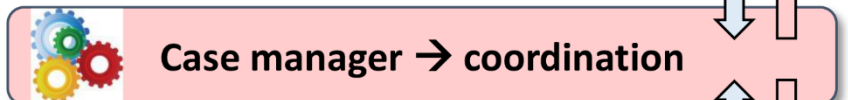
Personal goal (e.g., sports science MOOC) 88%

Week 23: [comments by personal development coach] dd/mm/yy

## Team communication

Next medical review: 26/02/16  
Meeting with coaching staff: 22/02/16

Last medical review 19/02/16  
Athlete has a cold, do not up intensity.  
Refer if fever.



### Message to case manager

- No show PT session 21/02 [initials]
- Exam for MOOC on 23/02 [initials]

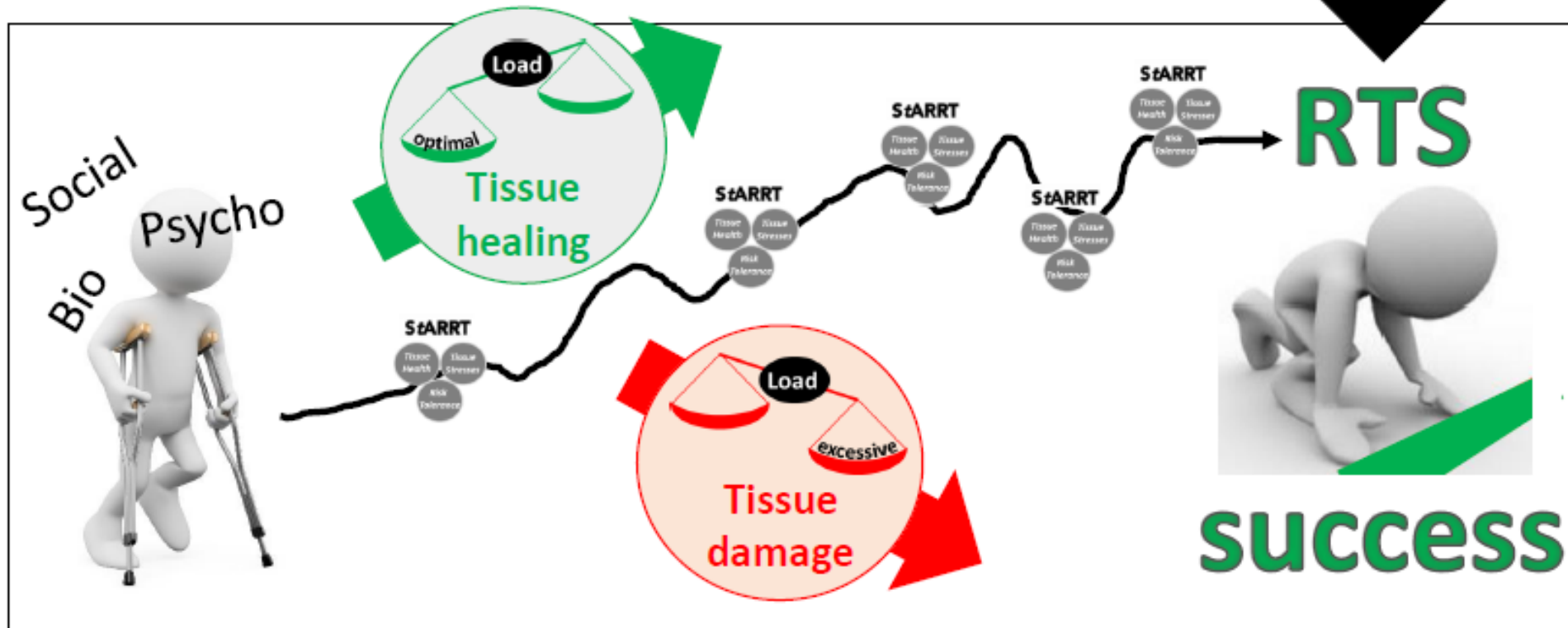




# 1. INJURY MANAGEMENT



## 2. CLINICAL REHABILITATION



# Teamwork

Not only for team sports

**Sports medicine** (includes all healthcare professionals) and **sports science** need to work together



# The key 5 points of RTP

1. RTP = attitude
2. Injury = opportunity
3. Teamwork → communication
4. Plan = essential → management
5. Athlete = partner at the centre

# YAF 2017

## Young Athletes Forum

**Yaf2017.org**  
@YAFfoundation



Bringing together world experts to discuss on Young Athletes health, development and performance in sport.

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21-22 SEPT. 2017, MONTREUX, SWITZERLAND



Robert Malina  
Evert Verhagen  
Asker Jeukendrup  
Karim Khan  
Lars Engebretsen  
Mario Bizzini  
Jason Gulbin  
Franck Chotel  
Rintje Agricola  
Grégoire Millet  
Marco Cardinale  
Neeru Jayanthi...



# Thank you



The image shows a Twitter profile for Dr Boris Gojanovic. The header features a blue logo of three runners, the text 'La Tour SPORT MEDICINE', the 'swiss olympic' logo with the Olympic rings, and 'MEDICAL CENTER'. A photo of a modern building is on the right. The profile picture is a man with glasses and a dark jacket. Below the photo, the name 'Dr Boris Gojanovic' and handle '@DrSportSante' are listed, followed by a bio: 'Health & Performance Manager at Swiss Olympic Medical Center, La Tour Sport Medicine. Cultivating curiosity & innovation'. To the right of the bio are statistics: TWEETS 3 982, ABONNEMENTS 917, ABONNÉS 4245, and FAVORIS 375. An 'Éditer' button is at the bottom right.

**La Tour**  
SPORT MEDICINE

swiss olympic MEDICAL CENTER

TWEETS 3 982 ABONNEMENTS 917 ABONNÉS 4245 FAVORIS 375

Éditer

**Dr Boris Gojanovic**  
@DrSportSante

Health & Performance Manager at Swiss Olympic Medical Center, La Tour Sport Medicine. Cultivating curiosity & innovation

*T - @DrSportSante*

*T - @SwissSportsMed*

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