



KONINKLIJKE BELGISCHE HOCKEY BOND
ASSOCIATION ROYALE BELGE DE HOCKEY



Stretching

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Stretching???

- Why? – Pourquoi?
- How long? – Long?
- When? – Quand?
- How frequently? – Frequent?
- Which muscles? – Quels muscles?
- Do I prevent muscle soreness? – Raideur?
- Do I get slower? – Je deviens plus lent?
- Is it necessary? – C'est nécessaire?
- How to do? – Comment faire?



Which types of stretching exist?

There are 3 forms...

Dynamic stretching:

- With movement -
- Active use mobility -
- Use full range of motion
- Short period in end range -

Passive stretching :

- Long maintained stretch in end position
- No movement
- Postures

Ballistic stretch - verend

- Verend rekken
- Use the elastic characteristics of a muscle
- Stay and move in end position

PNF techniques

- Contract relax – hold relax – contracter puis relacher le muscle
- Agoniste contract – agoniste qui contracte puis stretch
- CRAC – combinaison des 2

What are the structures we want to stretch?

→ ligaments ?

→ tendons ?

→ muscles ?

→ skin ? Peau?

Effect on ligaments?

- No effect!
- No use of stretching for ligaments
- Use AROM

Effect on tendons?

- peesweefsel: ja, toename elasticiteit, enkel ballistisch!
- Yes! Increase in elasticity.
- Only ballistic stretch!!!

Effect on muscles

- spierweefsel: ja, waarschijnlijk wel door toename van sarcomeren, vnl. statisch na 10-14 dagen
- Increase in sarcomeren (musclecells) after 2 weeks of static stretchings

Effect on mobility?

Stretching?

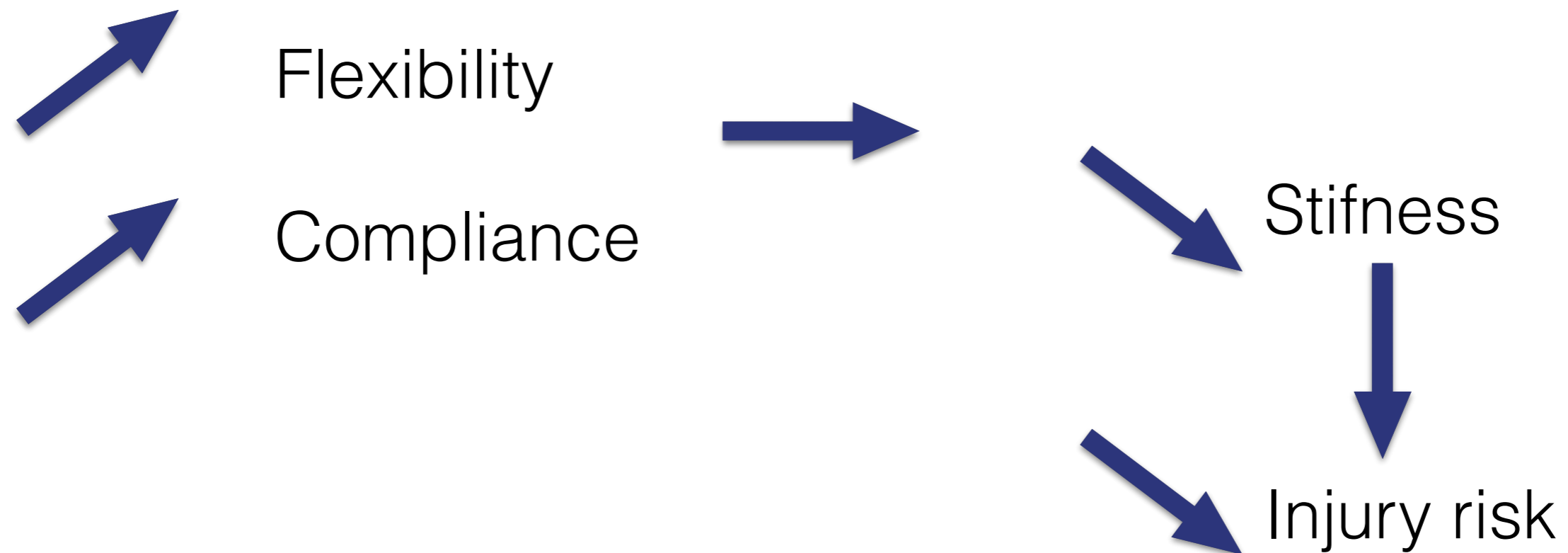
Effect on Range of motion

- Stretching works!
- All 3 variations work to improve the mobility
- Static ok
- Dynamic ok
- Ballistic ok

Effect on injury-prevention?

Stretching?

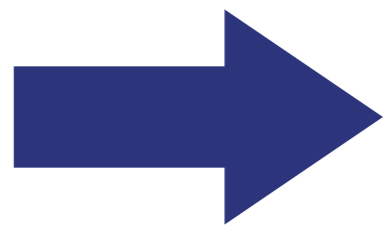
What are the long-term effects of stretching on the muscles (passive components)?



↙ risk of muscle injury during contacts/
movements with elongation of a muscle
group



→ a FLEXIBLE but WEAK muscle will tear when the muscles are getting tired !!!



Importance of strenght training
and core stability training in
combination with regular stretching

! Long passive stretching in warming-up reduces the maximal contractile force



Dynamic stretching
in warming up

Effect on injury prevention?

- preventie: stretching heeft geen effect op contracturen?!, eerder actief bewegen of werken via PNF (HR-CR-CRAC),
- Stretching has limited effect on contractures
- More important to move actively and to work with kinetic chains
- preventie letsels: voor pezen: mogelijks positief effect (Kubo et al 2002)
- Prevention tendons: possible positive effect

Effect on performance?

Stretching?

Effect on performance?

- prestatie: voorafgaand explosieve prestatie: geen effect (Nelson, Mark) maar wel positief effect ballistisch. Belangrijker is echter de actieve dynamische beweeglijkheid
- If stretching performed before an explosive activity there is no effect. It does for ballistic stretchings! More important however is active and dynamic mobility



Effect on musclesoreness?

Stretching?

Effect on musclesoreness?

- Stretching does not improve or remove musclesoreness!!!
- More important is active cool down
- Stretching only gives a subjective feeling of temporary relief of soreness

Which parameters to use?

Stretching?

Parameters

How Frequent???

- 2-3 sets
- Best effect after 1st set
- No better effect with 4 series

How long???

- Hold 30 seconds minimum

Quand???

- Best after warming-up – improved effect of stretching

General overview

Stretching: PRO / CONTRA (E. Witvrouw)

- ROM: stretching werkt, statisch, dynamisch en ballistisch
- Spierweefsel: ja, waarschijnlijk wel door toename van sarcomeren, vnl. statisch na 10-14 dagen
- Peesweefsel: ja, toename elasticiteit, enkel ballistisch!
- Prestatie: voorafgaand explosieve prestatie: geen effect (Nelson, Mark) maar wel positief effect ballistisch. Belangrijker is echter de actieve dynamische beweeglijkheid
- Preventie: stretching heeft geen effect op contracturen?!, eerder actief bewegen of werken via PNF,
- Preventie letsels: voor pezen: mogelijks positief effect (Kubo et al 2002)
- Spierpijnen: geen effect van stretching op spierpijnen

Not too late to start stretching?

