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Observer betrouwbaarheid van zes klinische testen voor core stability

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Inleiding

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- Doel
- Methode
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Definitie

“The ability to control the position and motion of the trunk over the pelvis and to allow optimum production, transfer and control of force and motion to the terminal segment in integrated athletic activities.”⁽¹⁾

1. Kibler, 2006

Core stability in de kliniek

- Core stability wordt wel in de spreekkamer getest
- Therapeutische consequenties
- Geen gouden standaard

Doel

Het bepalen van de inter- en intraobserver betrouwbaarheid van zes klinische testen

Doel

- Let op:
 - Het is **niet** een doel om te bekijken of de testen iets zeggen over core stability

Methode

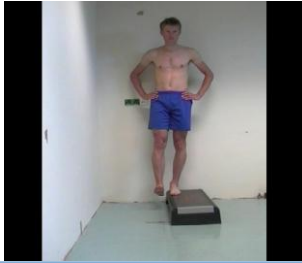
- Inclusie:
 - 40 mannelijke sporters tussen 18-50 jaar in kader van preparticipatiescreening
 - Exclusie: Pijn tijdens de oefeningen
 - Video opnamen
 - 6 observatoren
 - 4-puntschaal beoordeling
- Observatoren: Dr. H. Inklaar Dhr. C. Kruiswijk (KNVB), Dhr. E. Bakker, Dhr. Th. C. de Winter, Drs. M. Moen, Dr. J.L. Tol (MCHaaglanden)

De oefeningen

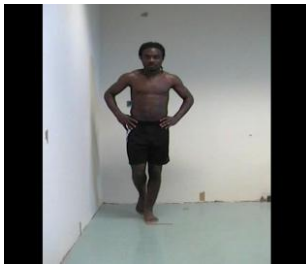
- Lateral step-down ^(1,2)
- Unilateral squat ^(1,2)
- Frontal plane evaluation ⁽²⁾
- Sagittal plane evaluation ⁽²⁾
- Transverse plane evaluation ⁽²⁾
- Bridge ⁽³⁾

(1) Chmielewski (2) Kibler (3) KNVB

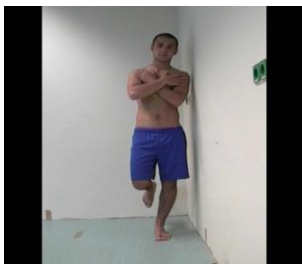
Lateral stepdown



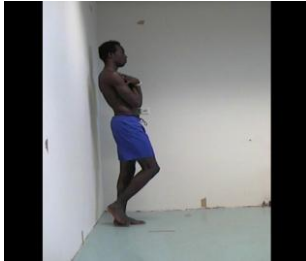
Unilateral squat



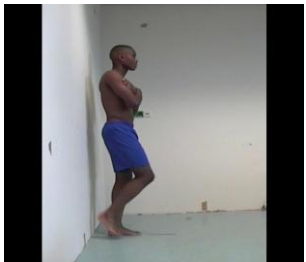
Frontal plane evaluation



Sagittal plane evaluation



Transverse plane evaluation



Bridge

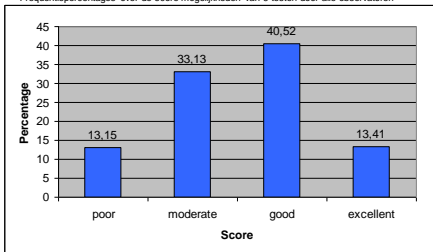


Onderzoekspopulatie

- Mannen, N=40
- Leeftijd: 25.4 jaar (18-44 jaar)
 - Lengte: 182 cm \pm 7.26
 - Gewicht: 74.9 kg \pm 12.1
 - Standbeen: in 75.7% links
 - Gemiddelde trainingstijd/week: 7.9u \pm 4.8

Resultaten observatoren

Frequentiepercentages over de score mogelijkheden van 6 testen door alle observatoren



ICC Interobserver Reliability of 6 Tests

0= kans, 1= perfect reproduceerbare test

Test	Interobserver Reliability (ICC)	95% Confidence Interval
• Unilateral squat	0.41	0.26-0.58
• Lateral step-down	0.39	0.23-0.57
• Frontal plane evaluation	0.09	0.01-0.21
• Sagittal plane evaluation	0.32	0.19-0.49
• Transverse plane evaluation	0.51	0.35-0.66
• Bridge	0.36	0.22-0.53

ICC Intraobserver Reliability of 6 Tests

0= kans, 1= perfect reproduceerbare test

Test	Intraobserver Reliability (ICC)	95% Confidence Interval
• Unilateral squat	0.55	0.45-0.64
• Lateral step-down	0.49	0.39-0.59
• Frontal plane evaluation	0.31	0.17-0.43
• Sagittal plane evaluation	0.40	0.29-0.51
• Transverse plane evaluation	0.55	0.46-0.64
• Bridge	0.21	0.07-0.35

Conclusie

- Op basis van deze studie zijn deze zes testen vooralsnog niet betrouwbaar genoeg

Discussie

Chmielewski et al. J Orthop Sports Phys Ther 2007; 37: 122-9

- Investigation of clinical agreement in evaluating movement quality during unilateral lower extremity functional tasks: a comparison of 2 rating methods:
 - Intra-and interobserver reliability for lateral step-down and unilateral squat
 - Kappa coefficient for interobserver reliability 0.67

Discussie Bestaande literatuur

Study	Test	Subject	Aantal Sub-jects	Aantal Observato-ren	Rating sca- le	ICC / Weighted kappa	Soort test
Hayes	Shoulder range	Shoulder klachten	8	4	Visual esti- mation in graden	ICC 0.57-0.70 0.26-0.39	Statisch + Dynamisch
Harrison	Single leg stance	ACL/ gezond	95	2	3- puntschaal	WK 0.7	Statisch
Piva	Lateral step-down	Patellofe- morale pijn	30	4	5- puntschaal (dichotoom)	WK 0.67	Dynamisch
Test		Specific method (weighted kappa)	Overall method (weighted kappa)				
Unilateral squat		0.18	0.01				
Lateral step-down		0.22	0.19				

Discussie

- At present, there are unfortunately no other studies available on clinical core stability tests.
- There are at present no reliable clinical tests with which core stability can be assessed

Toekomst/Aanbevelingen

- Duidelijke beoordelingscriteria
- Intraobserver betrouwbaarheid
- Voorzichtig zijn met conclusies
- Gouden standaard

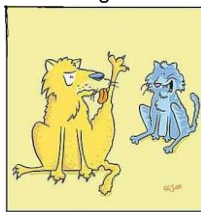
Take home message

- Testen vooralsnog niet betrouwbaar genoeg
- Voorzichtig zijn met conclusies
- Core stability: een complex concept dat nog open ligt voor onderzoek

Lit. Weir A., Darby J. et al. Clin J Sport Med 2010; 20 (1): 34-8

Bedankt voor uw aandacht!

Vragen??



"WOW! That yogapilates has really paid off!!"

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