

Validation of a Scale for Assessing Psychological Readiness to Return to Sport After Proximal Hamstring Tendon Tears

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No conflict of interest

- Return to sport (RTS) after PHT tears remains limited — reported rates of up to 86%¹
- Psychological readiness is a known predictor of RTS in other injuries (e.g., ACL reconstruction, Achilles tendon rupture)^{2,3}
- No validated tool currently exists to assess psychological readiness specifically for PHT injuries

- Anterior Cruciate Ligament - Return to Sport after Injury scale (ACL-RSI) assesses an athlete's psychological readiness to RTS after an ACL injury or reconstruction³
 - Emotions
 - Confidence in Performance
 - Risk Appraisal
- adapted for PHT injuries: „PHT-RSI“

ANTERIOR CRUCIATE LIGAMENT RETURN TO SPORT AFTER INJURY (ACL-RSI) SURVEY



Patient Name: _____
Date: _____

Instructions: Check the box that best describes you in relation to your symptoms

1. Are you confident that you can perform at your previous level of sport participation?

Not at all confident ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Fully confident

2. Do you think you are likely to re-injure your knee by participating in your sport?

Extremely likely ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Not likely at all

3. Are you nervous about playing your sport?

Extremely nervous ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Not nervous at all

4. Are you confident that your knee will not give way by playing your sport?

Not at all confident ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Fully confident

5. Are you confident that you could play your sport without concern for your knee?

Not at all confident ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Fully confident

6. Do you find it frustrating to have to consider your knee with respect to your sport?

Extremely frustrating ☐ 0 ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 ☐ 7 ☐ 8 ☐ 9 ☐ 10 Not at all frustrating

The Proximal Hamstring Tendon – Return to Sport after Injury Scale is a valid instrument for assessing psychological readiness to return to sport following proximal hamstring tendon avulsions.

- Inclusion Criteria:
 - Patients with operatively or non-operatively treated PHT tears
 - Treatment between 01/2012 and 12/2020
 - Minimum 1-year follow-up post-treatment

- Patient-Reported Outcome Measures:
 - PHT-RSI
 - PHAT (Perth Hamstring Assessment Tool)
 - LEFS (Lower Extremity Functional Scale)
 - mHHS (modified Harris Hip Score)
 - TAS (Tegner Activity Scale)
 - VAS for pain (at rest and during activity)

- Internal Consistency
 - Assessed using Cronbach's α
- Floor/Ceiling Effects
 - Defined as $\geq 15\%$ of patients scoring minimum (0) or maximum (100)
- Test-Retest Reliability
 - Measured using Intraclass Correlation Coefficient (ICC)
- Construct Validity
 - Evaluated via Spearman's rank correlations with:
 - LEFS
 - PHAT
 - mHHS
 - VAS
- Discriminant Validity
 - Compared PHT-RSI scores between patients who returned to sport and those who did not

- Number of included patients: n=39
- Mean age: 47.6 \pm 14.8 years
- Sex: 54% male
- 29 patients (74%) returned to their pre-injury TAS level or higher
- PHT-RSI Reliability: Cronbach's α = 0.99 (excellent)

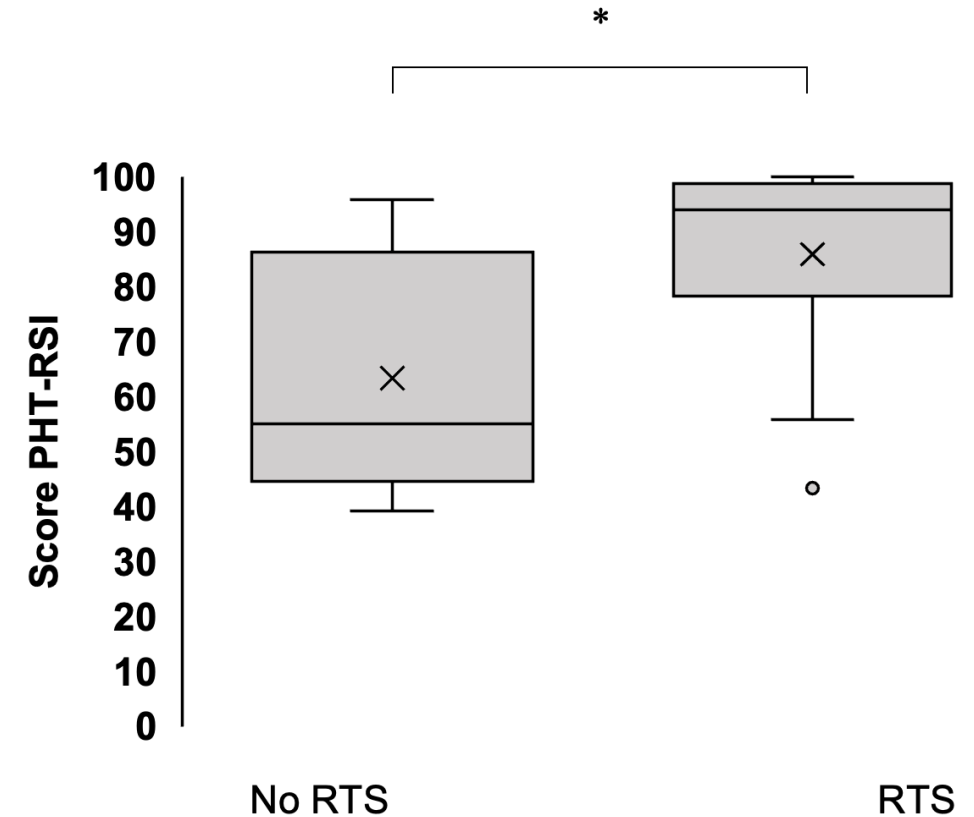
- Construct Validity: Correlation of PHT-RSI with other scales:

Comparison Measure	Correlation coefficient (r)	Significance
LEFS	0.705	$p \leq 0.01$
PHAT	0.605	$p \leq 0.01$
mHHS	0.660	$p \leq 0.01$
VAS pain (at rest)	-0.734	$p \leq 0.01$
VAS pain (during activity)	-0.734	$p \leq 0.01$

- Discriminative Validity:

Group	PHT-RSI Score (Mean±SD)
Returned to Sport	86.0±15.0
Not returned to Sport	78.0±12.8

p=0.036



- Sample Size:
 - Relatively small cohort ($n = 39$)
- Study Design:
 - Retrospective data collection
- Return to Sport Definition:
 - Based on self-reported Tegner Activity Scale levels, which may not fully capture performance level or sport-specific demands

- The **PHT-RSI** is a **valid and reliable tool** to assess **psychological readiness to RTS** after PHT injuries
- The scale demonstrated:
 - **Excellent internal consistency** (Cronbach's $\alpha = 0.99$)
 - **Strong construct validity** through significant correlations with functional outcome scores and pain levels
 - **Discriminative ability** to distinguish between patients who returned to sport and those who did not
- The PHT-RSI may support clinicians in **RTS decision-making** by addressing the often-overlooked **psychological component** of recovery

References

¹Willinger L, Siebenlist S, Lacheta L, Wurm M, Irger M, Feucht MJ, Imhoff AB, Forkel P. Excellent clinical outcome and low complication rate after proximal hamstring tendon repair at mid-term follow up. KSSTA. 2020;28:1230-1235.

²Shitrit E, Valentin E, Baudrier N, Bohu Y, Rauline G, Lopes R, Bauer T, Hardy A. The ALR-RSI score can be used to evaluate psychological readiness to return to sport after acute Achilles tendon tear. KSSTA. 2023;31:4961-4968.

³Webster KE, Feller JA, Lambros C. Development and preliminary validation of a scale to measure the psychological impact of returning to sport following anterior cruciate ligament reconstruction surgery. Phys Ther Sport. 2008;9:9-15.


Thank You!

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