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Validation and reliability of the Simple Achille Value (SAV) in Achilles tendon disorders

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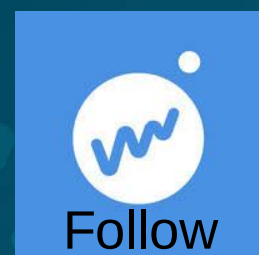
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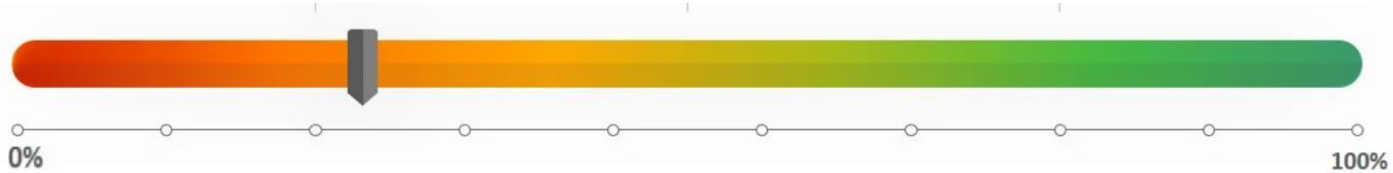


Disclosure Information



Introduction

- Functional scores are essential for Achilles tendon pathology evaluation.
- However, existing PROMs are complex and time-consuming.
- A simplified, patient-friendly tool is needed.



VS



QUESTIONS

No.	Question	Answer
1 N/A ☐	Do you have pain in your foot and/or ankle when you are at rest?	Always 0 1 2 3 Never 4
2 N/A ☐	How far can you walk before you get pain in your foot and/or ankle?	Impossible No limitation 0 1 2 3 4
3 N/A ☐	How much has your gait (i.e., the way you walk) changed because of your foot and/or ankle problem?	Extreme gait change No change 0 1 2 3 4
4 N/A ☐	Do you have difficulty walking on uneven surfaces?	Always Never 0 1 4
5 N/A ☐	Do you have pain in your foot and/or ankle when you are walking?	Always Never 0 1 4
6 N/A ☐	How often do you have pain in your foot and/or ankle during physical activity?	Always Never 0 1 4



VISA-A

Patient ID: Date:

For each question please mark the box that most accurately describes your usual Achilles tendon symptoms.

1. For how many minutes do you have **STIFFNESS** in the Achilles region following a period of prolonged inactivity (e.g. when first getting out of bed)?

0 10 20 30 40 50 60 70 80 90 100

2. Once you have warmed up for the day how much **PAIN** do you have when stretching your Achilles tendon?

no pain 0 1 2 3 4 5 6 7 8 9 10 strong severe pain

3. How much **PAIN** do you have when using stairs?

no pain 0 1 2 3 4 5 6 7 8 9 10 strong severe pain

4. For how many minutes does your Achilles **PAIN** last once you have stopped a painful activity?

0 10 20 30 40 50 60 70 80 90 100

5. How much **PAIN** do you have doing 10 double-legged heel raises? If you are unable to do 10, please mark your pain level for the number you can do.

no pain 0 1 2 3 4 5 6 7 8 9 10 strong severe pain

6. How many single-legged heel raises can you do on your affected side without **PAIN**?

0 1 2 3 4 5 6 7 8 9 10

7. At what level are you undertaking your normal activities due to your Achilles symptoms (e.g. walking, gardening or housework)?

Normal level or higher than when symptoms began (10)
☐ Participating in full activities but not at the same level (7)
☐ Modified activities (4)
☐ Unable to participate (0)

8. Please answer question A, B or C only, depending on which section best describes your **PAIN** when walking. Do not complete all sections.

A. If you have no pain when walking on flat ground, for how long can you walk?

0-5 mins 6-10 mins 11-20 mins 21-30 mins >30 mins

0 1 2 3 4

B. If you have some pain when walking on flat ground but it does not stop you, for how long can you walk?

0-5 mins 6-10 mins 11-20 mins 21-30 mins >30 mins

0 1 2 3 4

C. If you have pain that stops you walking on flat ground, for how long can you walk?

0-5 mins 6-10 mins 11-20 mins 21-30 mins >30 mins

0 1 2 3 4

Total score (/100) %



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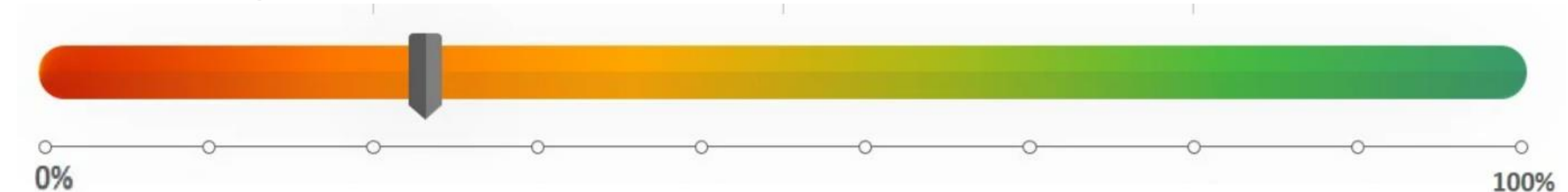
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Objectives

- To validate the Simple Achille Value (SAV) - a one-question PROM.
- To compare it with VISA-A and EFAS.
- To assess its reliability, responsiveness, and discrimination.

What is SAV?

- "How normal do you consider your Achilles function today, as a percentage?,,



- Answer from 0% (worst) to 100% (fully normal).
- Inspired by the Single Assessment Numeric Evaluation (SANE).

Methods

- Multicenter, prospective study
- 101 patients (surgical, conservative, control).
- PROMs used: SAV, VISA-A, EFAS.
- Questionnaires applied pre-op/post-op or test-retest.

Patient Characteristics of Different Groups.

	Operative group (n = 52)	Non operative group (n = 27)	Control group (n = 24)
Men/Women, n	33/19	20/7	12/12
Age, y, mean $\pm$ SD	52.17 $\pm$ 10.47	38.00 $\pm$ 9.36	44.33 $\pm$ 16.91
Diagnosis, %	Disinsertion/reinsertion, 57.7 Haglund resection, 23.1 Achille tendinoscopy, 7.7 FHL* transfer, 5.8 Achille suture, 3.8 Achille lengthening, 3.8	Achille tendinopathy, 62.9 Achille tear, 26.0 Insertion tendinopathy, 11.1	N/A
Follow up, months	4.8	N/A	N/A

* FHL: Flexor Hallucis Longus



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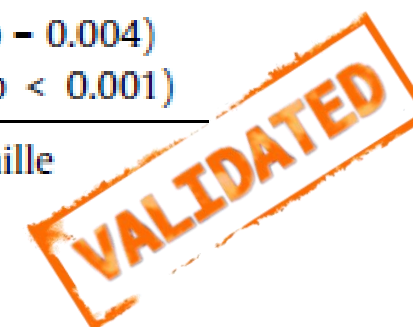
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Correlation with Established Scores

Scores and Correlations between the SAV and EFAS and VISA-A Scores in the Operative Group^a.

	SAV, %	EFAS, %	VISA-A, %
Score, mean $\pm$ SD	38.01 $\pm$ 25.29		
Preoperative	70.71 $\pm$ 20.93	30.70 $\pm$ 21.59	32.73 $\pm$ 14.78
Postoperative		63.82 $\pm$ 26.64	60.02 $\pm$ 24.19
rS (95 % CI)			
Preoperative		0.59 (0.39 -0.75)(p < 0.001)	0.40 (0.14 -0.60)(p = 0.004)
Postoperative		0.79 (0.66 -0.87)(p < 0.001)	0.79 (0.66 -0.88)(p < 0.001)

^a EFAS, European Foot & Ankle Society; VISA-A, Victorian Institute of Sports Assessment - Achille



- Strong correlation with EFAS (r = 0.79).
- Moderate to strong correlation with VISA-A (r = 0.40 to 0.79).
- p < 0.001 for all comparisons.



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Discriminative Ability

- SAV distinguishes patients vs controls:
 - Pre-op: $38.0 \pm 25.3\%$
 - Control: $97.9 \pm 8.3\%$
- Significant difference: $p < 0.001$

Responsiveness to Change

- SAV improved significantly after surgery:
 - Pre-op: $38.0 \pm 25.3\%$
 - Post-op: $70.7 \pm 20.9\%$
- Mean follow-up: 4.77 ± 1.2 months

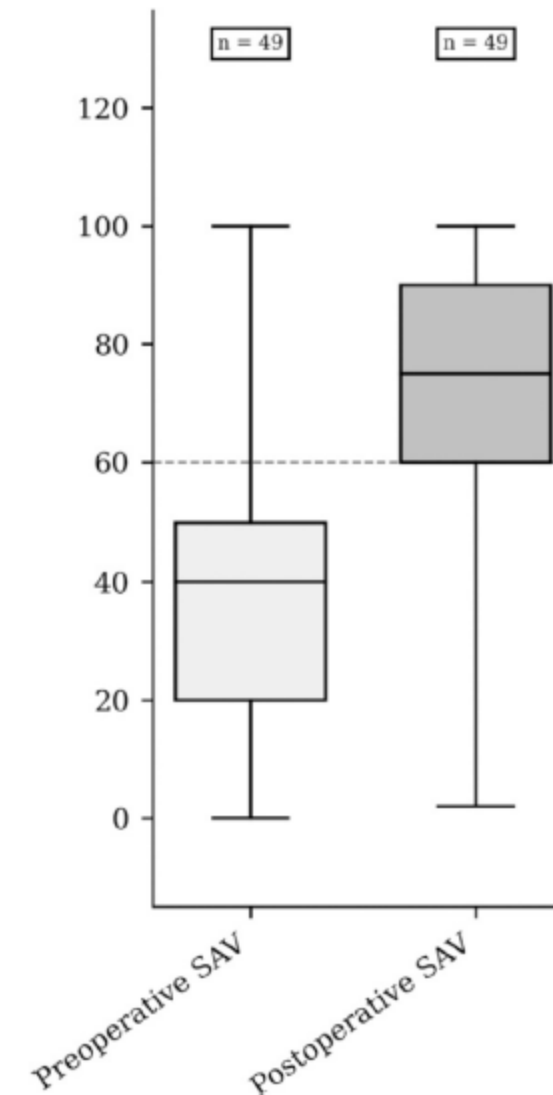


Fig. 1. Distribution of the Simple Achille Value (SAV) for preoperative period and postoperative period in the operated group.

Reliability

- Excellent test-retest reliability:
 - ICC = 0.95 (95% CI: 0.91–0.98)
- No ceiling (11.5%) or floor (13.5%) effects

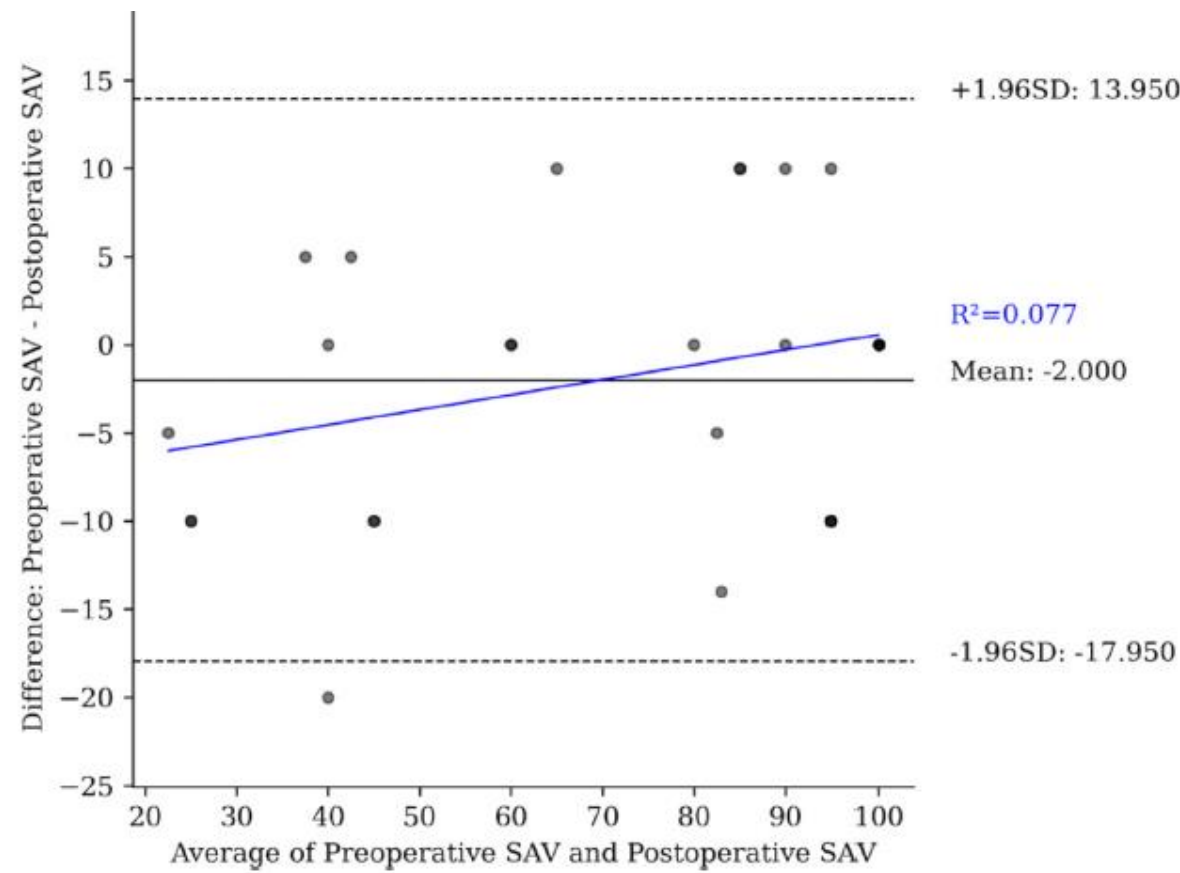


Fig. 2. Intraclass correlation between test and retest.



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Discussion

- SAV is valid, reliable, responsive, and discriminant.
- Easier to implement than VISA-A or EFAS.
- Suitable for follow-up, triage, and clinical routine.

Conclusion

- SAV is a simplified, effective PROM for Achilles disorders.
- Validated against VISA-A and EFAS.
- Promising tool for real-world orthopaedic practice.

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