



## 10.4 Ankle

- Achilles Tendon total Rupture Score (ATRS) **630**
- American Academy of Orthopaedic Surgeons (AAOS) foot and ankle scale **632**
- American College of Foot and Ankle Surgeons (ACFAS) scoring scales **634**
- Ankle activity score **636**
- American Orthopaedic Foot and Ankle Society (AOFAS) ankle-hindfoot scale **638**
- Ankle Joint Functional Assessment Tool (AJFAT) **642**
- Ankle Osteoarthritis Score (AOS) **644**
- Ankle-rating scale **646**
- Bray ankle evaluation score **648**
- de Bie ankle sprain function score **650**
- Ferretti point system **652**
- Foot and Ankle Ability Measure (FAAM) **654**
- Foot and Ankle Disability Index (FADI) **656**
- Foot and Ankle Disability Index (FADI) sport **658**
- Foot and Ankle Outcome Score (FAOS) **660**
- Freiburg ankle score **662**
- Good, Jones, and Lingstone grading system of lateral ankle stability **664**
- Iowa ankle score **666**
- Japanese Society for Surgery of the Foot (JSSF) ankle-hindfoot scale **668**
- Karlsson ankle function score **670**



Karlstrom Olerud ankle score	672
Kumbhare and Basmajian ankle sprain scale	674
Leppilahti Achilles tendon rupture score	676
Kofoed ankle scoring system	678
Linde inflammatory score	680
Liu ankle score	682
Mazur ankle score	684
McComis Achilles tendon rupture score	686
McGuire point system for ankle evaluation	688
Merkel Achilles tendon rupture score	690
Moller ruptured Achilles tendon score	692
Olerud Molander Ankle (OMA) score	694
Performance index	696
Phillips ankle scoring system	698
Sports ankle rating clinical rating score	700
Sports ankle rating quality of life measure	702
Sports ankle rating—Single Assessment Numeric Evaluation (2003)	704
St. Pierre ankle score	706
Takakura ankle score	708
Teeny-Wiss functional ankle score	710
Victorian Institute of Sport Tendon Study Group (VISA-A)	712
Weber ankle score	714



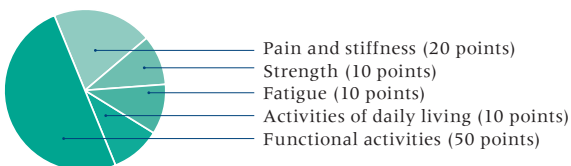
## 1. Achilles Tendon total Rupture Score (ATRS) (2007)

Source: Nilsson-Helander K, Thomee R, Gravare-Silbernagel K, et al (2007) The Achilles tendon Total Rupture Score (ATRS): development and validation. *Am J Sports Med*; 35:421–426.

### Content

**Type** Patient-reported outcome

**Scale** 5 subscales (10 items):



Items scored on a 0 to 10 point scale.

### Interpretation

Maximum score: 100 points

Minimum score: 0 points

The higher the score, the greater the disability.

### Validation

#### Outcomes validated against

- Foot and ankle outcome score
- Swedish version of Victorian Institute of sports assessment-Achilles questionnaire

Patient population tested in	Validity	Reliability	Responsiveness
Patients with Achilles tendon rupture (N = 82) (43 years; 77% male) and healthy subjects (N = 52) (42 years; 63% male) [1]	+	+	not tested
Patients with Achilles tendon rupture (N = 43) (42 years; 84% male) [1]	not tested	+	not tested
Patients with Achilles tendon rupture (N = 82) (40 years; 81% male) [1]	not tested	not tested	+

#### Validation study:

- [1] SooHoo NF, Shuler M, Fleming LL (2003) Evaluation of the validity of the AOFAS Clinical Rating Systems by correlation to the SF-36. *Foot Ankle Int*; 24:50–55.



## Methodological evaluation

(6/6)

		no score	0 points	1 point	points
Validity	Content validity	not tested	not valid	valid	1
	Construct validity	not tested	not valid	valid	1
	Criterion validity	not tested	not valid	valid	1
Reliability	Internal consistency	not tested	not consistent	consistent	1
	Reproducibility	not tested	not reproducible	reproducible	1
	Responsiveness	not tested	not responsive	responsive	1
				Subtotal	6

## Clinical utility

(4/4)

		0 points	1 point	2 points	points
	Patient friendliness	limited	moderate	strong	2
	Clinician friendliness	limited	moderate	strong	2
				Subtotal	4

Total (out of 10)

10



## 2. American Academy of Orthopaedic Surgeons (AAOS) foot and ankle scale (2004)

Source: **AAOS Johanson NA, Liang MH, Daltroy L, et al** (2004) American Academy of Orthopaedic Surgeons lower limb outcomes assessment instruments. Reliability, validity, and sensitivity to change.

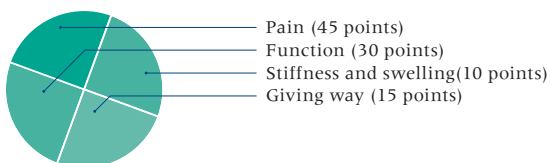
*J Bone Joint Surg Am*; 86-A:902–909.

[http://www.aaos.org/research/outcomes/outcomes\\_documentation.asp](http://www.aaos.org/research/outcomes/outcomes_documentation.asp)

### Content

**Type** Patient-reported outcome

**Scale** 4 subscales (20 items):



Items scored on a 1 to variable maximum 5 to 7 point scale.

Items rescored on a 0 to 5 point scale.

### Interpretation

Scores summed and normalized to 100 for each subscale. Total score then subtracted from 100. Each subscale scored separately.

Maximum score: 100 points

Minimum score: 0 points

The lower the score, the greater the disability.

### Validation

#### Outcomes validated against [1]

- Physician rating of pain and function
- SF-36
- WOMAC

Patient population tested in	Validity	Reliability	Responsiveness
Patients with foot or ankle complaints (N = 70) (48 years; 54% male) [1]	+	+	Not tested

#### Validation study:

[1] **Johanson NA, Liang MH, Daltroy L, et al** (2004) American Academy of Orthopaedic Surgeons lower limb outcomes assessment instruments. Reliability, validity, and sensitivity to change.

*J Bone Joint Surg Am*; 86-A:902–909.



**Methodological evaluation**

●●●●●● (6/6)

		no score	0 points	1 point	points
Validity	Content validity	not tested	not valid	valid	1
	Construct validity	not tested	not valid	valid	1
	Criterion validity	not tested	not valid	valid	1
Reliability	Internal consistency	not tested	not consistent	consistent	1
	Reproducibility	not tested	not reproducible	reproducible	1
	Responsiveness	not tested	not responsive	responsive	1
				Subtotal	6

**Clinical utility**

●●●○ (3/4)

		0 points	1 point	2 points	points
	Patient friendliness	limited	moderate	strong	1
	Clinician friendliness	limited	moderate	strong	2
				Subtotal	3

**Total (out of 10)**

●●●●●●●○

**9**



### 3. American College of Foot and Ankle Surgeons (ACFAS) scoring scales (2005)

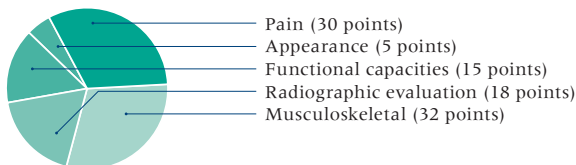
Similar scales for metatarsophalangeal joint/first ray, forefoot, rearfoot, and ankle

Source: **Thomas JL, Christensen JC, Mendicino RW, et al** (2005) ACFAS Scoring Scale user guide. *J Foot Ankle Surg*; 44:316–335.

#### Content

**Type** Clinician-based outcome

**Scale** 5 subscales (9 items):



Items scored on a 0 to variable maximum 5 to 30 point scale.

#### Interpretation

Maximum score: 100 points

Minimum score: 0 points

The lower the score, the greater the disability.

#### Validation

No validation studies were identified.

Patient population tested in	Validity	Reliability	Responsiveness
Not applicable			



**Methodological evaluation**

○○○○○○ (0/6)

		no score	0 points	1 point	points
Validity	Content validity	not tested	not valid	valid	-
	Construct validity	not tested	not valid	valid	-
	Criterion validity	not tested	not valid	valid	-
Reliability	Internal consistency	not tested	not consistent	consistent	-
	Reproducibility	not tested	not reproducible	reproducible	-
	Responsiveness	not tested	not responsive	responsive	-
				Subtotal	-

**Clinical utility**

●●○○ (2/4)

		0 points	1 point	2 points	points
	Patient friendliness	limited	moderate	strong	2
	Clinician friendliness	limited	moderate	strong	0
				Subtotal	2

**Total (out of 10)**

●●○○○○○○○○○○

**2**



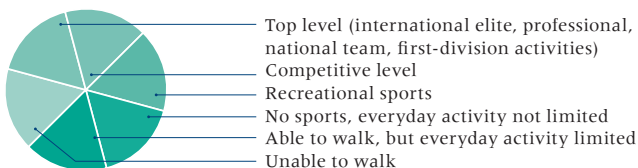
## 4. Ankle activity score (2004)

Source: **Halasi T, Kynsburg A, Tallay A, et al** (2004) Development of a new activity score for the evaluation of ankle instability. *Am J Sports Med*; 32:899–908.

### Content

**Type** Patient-reported outcome

**Scale** 6 subscales (11 activities):



Activities assigned a score between 0 and 10.

### Interpretation

Maximum score: 10 points

Minimum score: 0 points

The lower the score, the greater the disability.

### Validation

#### Outcomes validated against

- Tegner score
- Patient's subjective results
- Karlsson function score

Patient population tested in	Validity	Reliability	Responsiveness
Patients that had undergone ankle surgery for instability (N = 92) (23 years; 40% male) [1]	+	not tested	+
Athletes with ankle problems (N = 250) (age NR; sex NR) [1]	not tested	+	not tested

#### Validation study:

[1] Halasi T, Kynsburg A, Tallay A, et al (2004) Development of a new activity score for the evaluation of ankle instability. *Am J Sports Med*; 32:899–908.



## Methodological evaluation

(5/6)

		no score	0 points	1 point	points
Validity	Content validity	not tested	not valid	valid	1
	Construct validity	not tested	not valid	valid	1
	Criterion validity	not tested	not valid	valid	1
Reliability	Internal consistency	not tested	not consistent	consistent	-
	Reproducibility	not tested	not reproducible	reproducible	1
	Responsiveness	not tested	not responsive	responsive	1
				Subtotal	5

## Clinical utility

(3/4)

		0 points	1 point	2 points	points
	Patient friendliness	limited	moderate	strong	1
	Clinician friendliness	limited	moderate	strong	2
				Subtotal	3

Total (out of 10)

8