

# ACFAS Scoring Scale User Guide

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The American College of Foot and Ankle Surgeons (ACFAS) has identified a need to construct a clinical instrument that measures subjective and objective parameters in prospective clinical investigations of the foot and ankle. Although similar tools have previously been published, they are not fully inclusive in design and acceptance. Furthermore, the validity and reliability of these tests have not been established.

The variability of the scoring methods available to investigators underscores the need for a standard, accepted grading method to evaluate various foot and ankle conditions before and after treatments. Therefore, the ACFAS has designed 4 modules that correspond to major anatomic regions germane to the foot and ankle that together constitute the ACFAS Scoring Scale.

## Validation Process

The ACFAS Scoring Scale has undergone several tests to validate the design of this tool. The validation parameters include: *reliability* (test-retest); *construct validity* (subjective vs objective correlation); *multiple rater effects*; and *criterion validity*. Modules 1 and 2 of the ACFAS Scoring Scale have been validated; modules 3 and 4 are currently pending validation.

## General Design

The ACFAS Scoring Scale has a modular design that is anatomically based. The modules are as follows: (1) First

Metatarsophalangeal Joint and First Ray, (2) Forefoot (excluding First Ray), (3) Rearfoot (including Flatfoot), and (4) Ankle. The ACFAS Scoring Scale Committee has left open the possibility that future modules may be developed.

Each module includes a total of 100 points (50 subjective, 50 objective).

The subjective parameters are broken down into sections on Pain, Appearance, and Functional Capacities, while the objective parameters appear under the Radiographic and Function (musculoskeletal) sections.

Measurement criteria were selected from a review of current literature and by ACFAS Scoring Scale Committee consensus. Therefore, only criteria that could be reproducibly measured and widely accepted were included in the modules.

The instrument is designed to “stand alone” each time it is administered. It reflects quantitative scores, which are a weighted summation of subjective and objective parameters. By having a numeric scoring system, comparative results between different investigations on similar topics can be more appropriately evaluated. In addition, an overall clinical effect of various treatments can be determined.

The ACFAS Scoring Scale Committee acknowledges that there will be instances in which investigators will need to remove or add sections in a module to more accurately reflect the proposed study design.

*Example:* In diabetic Charcot neuroarthropathy, where pain is not an appropriate indicator of outcome, presence or absence of ulceration could be substituted for pain.

It is recommended that investigators consider testing this tool against other instruments to allow for greater comparison between study designs. The ACFAS Scoring Scale Committee periodically will review the function of this tool and will provide updates based on current published literature.

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## Modification of Modules: Additions and Deletions

Modification of the scored parameters is allowable. It is recommended that additions or deletions to any subsection (for example, radiology) maintain the same total score of the subsection.

*Example:* If the Ankle module (Module 4) is used to investigate ankle arthrodesis, the stress radiograph sub-

section should be removed. Scores from this category would then be added to other radiographic parameters within that section. This will maintain the same score ratio among other sections in the module.

In studies that are purely soft tissue investigations (for example, neurectomy for Morton's neuroma), it is recommended that the authors remove the *entire* Radiographic



### ACFAS Scoring Scale Module 1: First MPJ & First Ray

Page 1: Patient Questionnaire

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

#### INSTRUCTIONS to the Patient:

Please answer the following questions honestly with regard to the condition of your foot.

1. **Pain (30 points)**

Over the past month, how much has your foot pain limited your daily activities?

- I have no pain with normal activities (30)
- I have slight or occasional pain but no limitation of activities (22)
- I have moderate pain limiting some activities (14)
- I have pain and significant limitation of activities (6)
- I have severe pain that limits almost all activity (0)

2. **Appearance (5 points)**

How would you rate the appearance of your big toe joint?

- I like it very much (5)
- I mostly like it (4)
- I'm not sure either way - neutral (3)
- I mostly do not like it (2)
- I definitely dislike it (0)

3. **Functional Capacities (15 points)**

How frequently do you have pain while wearing shoes?

- I am able to continuously wear any type of shoe (15)
- I am able to wear any type of shoe most of the time (10)
- I am able to wear **only** walking, athletic or casual shoes (5)
- I am able to wear **only** special order, orthopedic or custom-made shoes (0)

Total Points Page 1: \_\_\_\_\_

Total Points Module 1: \_\_\_\_\_


section from the module and then add the points from that category into the remaining objective measurement section.

## Explanations and Rationalizations

Most of the criteria are self-explanatory. Regarding radiographic evaluation, measurements that are common will not be explained but those used less commonly or which may have some method variation or question will be illustrated and described.

## Normal Values

Normal values used in these modules reflect those from published investigations establishing these values (2, 3, 4, 6, 7, 13, 17, 19, 21).



**ACFAS Scoring Scale**  
**Module 1: First MPJ & First Ray**  
 Page 2: Objective Parameters

Patient: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Patient # \_\_\_\_\_

4. Radiographic Evaluation (18 points)

**AP (Weight-bearing Dorsoplantar) View (6 points)**

**HA (Hallux Abductus) Angle (6 points)**

<input type="checkbox"/> 0-20° (6)	<input type="checkbox"/> -1 to -3° (2)
<input type="checkbox"/> 21-30° (3)	<input type="checkbox"/> > -3° (0)
<input type="checkbox"/> ≥ 31° (0)	

**IM (Intermetatarsal) Angle (6 points)**

<input type="checkbox"/> 0-10° (6)	
<input type="checkbox"/> 11-19° (3)	
<input type="checkbox"/> ≥ 20° (0)	
<input type="checkbox"/> < 0° (0)	

**Lateral View (6 points)**

**First Metatarsal Declination Angle (6 points)**

<input type="checkbox"/> 16-24° (6)	<input type="checkbox"/> 10-15° (2)
<input type="checkbox"/> 25-29° (3)	<input type="checkbox"/> < 10° (0)
<input type="checkbox"/> ≥ 29° (0)	

5. Function (32 points)

**Hallux Purchase (Paper-pull out test) (10 points)**

Not Movable (10)     Resistant (5)     Easy (0)

**Range of Motion: First Ray (17 points)**

<b>First MPJ Dorsiflexion (11 points)</b>	<b>First MPJ Plantarflexion (4 points)</b>
<input type="checkbox"/> ≥ 60° (11)	<input type="checkbox"/> ≥ 0° (4)
<input type="checkbox"/> 45-59° (8)	<input type="checkbox"/> < 0° (0)
<input type="checkbox"/> 36-45° (4)	
<input type="checkbox"/> < 36° (0)	

**Hallux IPJ Extension (2 points)**

Extend to 0° (2)  
 < 0° (0)

**Limp from Foot Pain (without shoes) (5 points)**

No (5)  
 Yes (0)

Total Points Page 2: \_\_\_\_\_

## Module 1: First Metatarsophalangeal Joint and First Ray (1-6)

Module 1 is the scoring scale designed for the pathology of the first metatarsophalangeal joint and first ray. Module 1 should be used for the clinical evaluation of hallux valgus, hallux rigidus, and less common deformities such as hallux malleus and hallux varus.

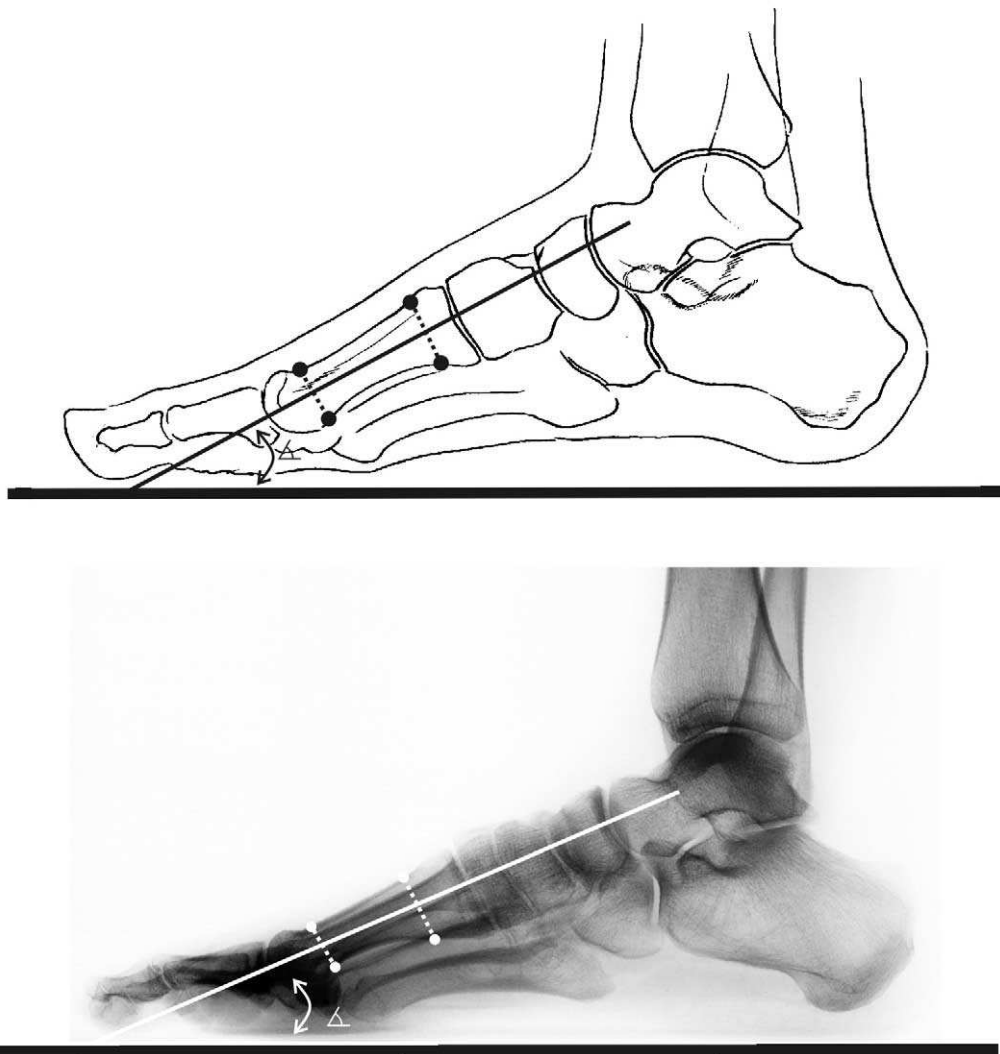
The subjective patient questionnaire is designed to quantify the presence of pain, the cosmetics of the deformity, and the patient's functional capabilities. The objective section relies on

radiographic assessment of the deformity and clinical evaluation of function.

### First Metatarsal Declination Angle (Fig 1)

The ACFAS Scoring Scale Committee recommends that the first metatarsal declination be measured by obtaining a bisection of the head and base of the first metatarsal and measuring this line to the ground plane. This will permit the measurement of this value on all investigations that involve first metatarsal head, shaft, and base surgical procedures.

## XR: Foot - Standing Lateral



## 1st Metatarsal Declination Ankle


**FIGURE 1** The first metatarsal declination angle is drawn from the lateral radiograph. It is the angle formed by the bisection of the first metatarsal and a line parallel to the ground supporting surface.

## Module 2: Forefoot (excluding First Ray) (7-12)

Module 2 is the evaluation tool for the remaining portion of the forefoot excluding the first ray pathology. This module should be used for pathology of the lesser metatarsals including tailor's bunions and lesser toe digital deformities. Some new concepts regarding evaluation of metatarsal length relationships are recommended.

## Investigating Multiple Metatarsals or Digits

It is recommended that the objective section of this module be applied to each metatarsal or digit being investigated as pathologies and treatment may be more uniformly evaluated. Clinical studies may investigate more than one metatarsal, toe or ray. In this situation, it is recommended that the evaluation include data for each segment.



**ACFAS Scoring Scale**  
**Module 2: Forefoot**  
**(excluding First Ray)**

Page 1: Patient Questionnaire

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

INSTRUCTIONS to the Patient:  
Please answer the following questions honestly with regard to the condition of your foot.

1. **Pain (30 points)**  
Over the past month, how does your foot pain limit your daily activities?
  - I have no pain with normal activities (30)
  - I have slight or occasional pain but no limitation of activities (22)
  - I have moderate pain limiting some activities (14)
  - I have pain and significant limitation of activities (6)
  - I have severe pain that limits almost all activity (0)
  
2. **Appearance (5 points)**  
How would you rate the appearance of your foot?
  - I like it very much (5)
  - I mostly like it (4)
  - I'm not sure either way - neutral (3)
  - I mostly do not like it (2)
  - I definitely dislike it (0)
  
3. **Functional Capacities (15 points)**  
How frequently do you have pain while wearing shoes?
  - I am able to continuously wear any type of shoe (15)
  - I am able to wear any type of shoe most of the time (10)
  - I am able to wear *only* walking, athletic or casual shoes (5)
  - I am able to wear *only* special order, orthopedic or custom-made shoes (0)

Total Points Page 1: \_\_\_\_\_

Total Points Module 2: \_\_\_\_\_



**ACFAS Scoring Scale**  
**Module 2: Forefoot**  
**(excluding First Ray)**

Page 2: Objective Parameters

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

4. Radiographic Evaluation (18 points)  
(If studying more than one ray, evaluate each ray separately)

**AP (Weight-bearing Dorsoplantar) View**

**4-5 IM Angle (4 points)**

- 0-8° (4)  
 ≥ 9° (0)

**Metatarsal Length - Metatarsal Tangent Angles**

**Normal Range (10 points)**

- M2-M1: 0-10° difference  
 M2-M3: 10-20° difference  
 M2-M4: 20-30° difference  
 M2-M5: 30-40° difference

**Out of Normal Range (0 points)**

- M2-M1: < 0° or > 10° difference  
 M2-M3: < 10° or > 20° difference  
 M2-M4: < 20° or > 30° difference  
 M2-M5: < 30° or > 40° difference

**Transverse Plane Position (4 points)**

**MPJ (2 points)**

- 0-5° ab/adduction (2)  
 > 5° ab/adduction (0)

**IPJ/PIPJ (2 points)**

- 0-5° ab/adduction (2)  
 > 5° ab/adduction (0)

5. Function (32 points)  
(If studying more than one ray, evaluate each ray separately)

**Range of Motion: Lesser MPJ (15 points)**

**Lesser MPJ Extension (7 points)**

- ≥ 65° (7)  
 45-64° (3)  
 < 45° (0)

**Lesser MPJ Flexion (8 points)**

- ≥ 0° (8)  
 < 0° (0)

**Digital Purchase (4 points)**

- Yes (4)  
 No (0)

**Drawer Sign / Dislocation (8 points)**

- Stable (8)  
 Subluxable (4)  
 Dislocated (0)

**Limp from Foot Pain (without shoes) (5 points)**

- No (5)  
 Yes (0)

Total Points Page 2: \_\_\_\_\_

### Intermetatarsal Angles (Fig 2)

The recommended methods for evaluation of the fourth-fifth intermetatarsal angle are illustrated in Figure 2.

### Metatarsal Tangent Angles (Fig 3)

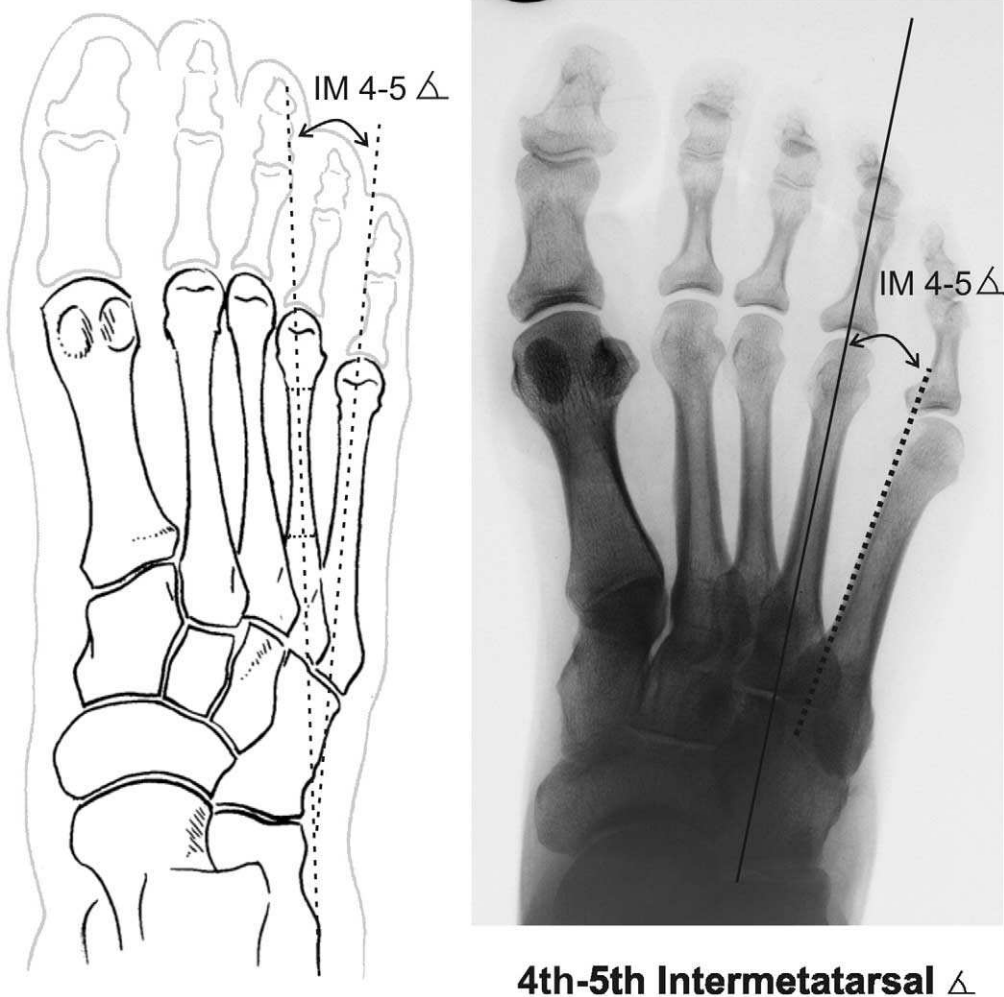
Metatarsal length patterns have been traditionally described as a parabola. Research has shown that the only reproducible analytical method of describing the metatarsal length relationships involves measuring angular tangents from a perpendicular drawn to the second metatarsal bisec-

tion intersecting at the distal articular surfaces (13). In this way, 4 metatarsal tangent angles are defined (Fig 3).

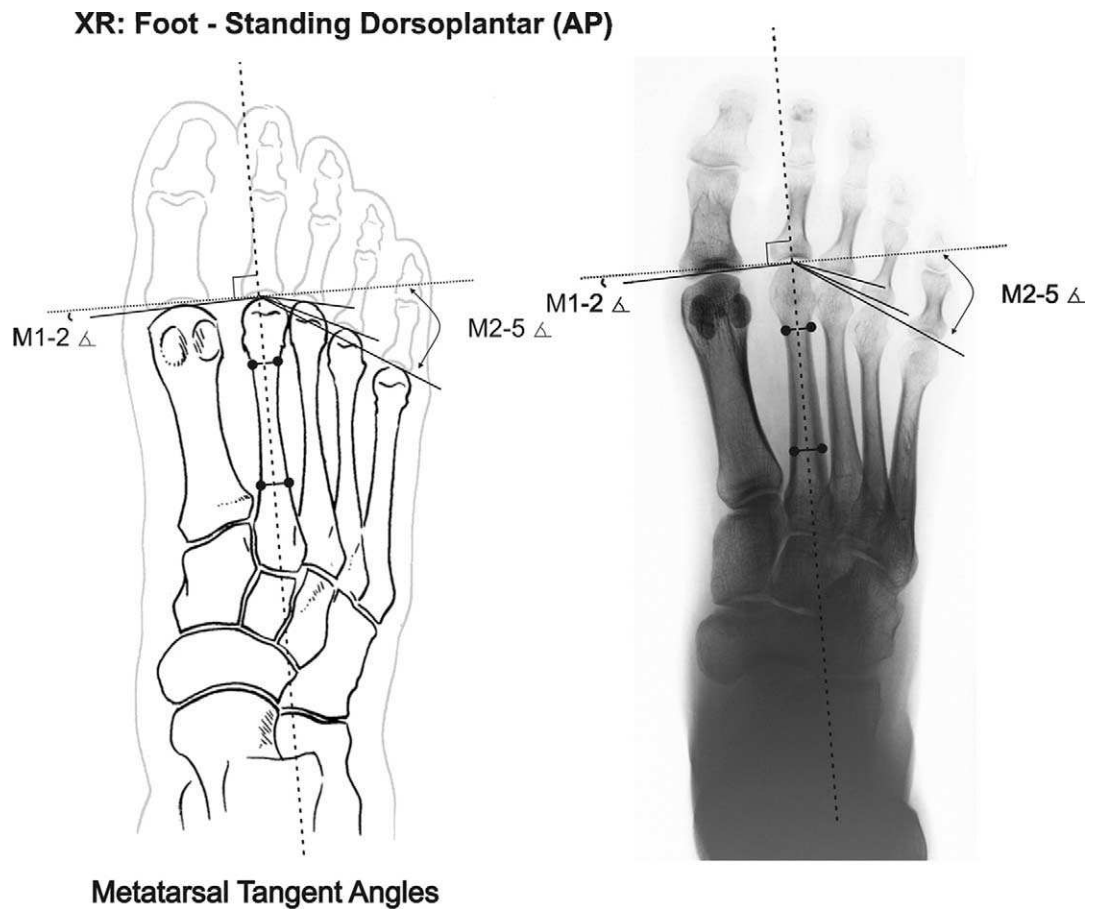
### Soft Tissue Pathology

Strict soft tissue pathology can be evaluated with this module. To do so, investigators should delete the Radiographic section and add appropriate values to the Function section. The objective scores must be equal to the subjective scores in these modules.

## XR: Foot - Standing Dorsoplantar (AP)



**FIGURE 2** (A) The fourth-fifth intermetatarsal angle may be derived by the angular relationship of the bisection of the fourth and fifth metatarsals. (B) An alternative method using a tangent to the medial surface of the fifth metatarsal has been proposed to reduce error from lateral bowing that may occur in the distal fifth metatarsal.



**FIGURE 3** Metatarsal length relationships can be assessed by drawing angular tangents from a perpendicular drawn to the second metatarsal bisection intersecting at the distal articular surfaces. Four metatarsal tangent angles are defined: M1-2, M2-3, M2-4, and M2-5.

### Module 3: Rearfoot (including Flatfoot) (14–20)

Module 3 is designed to allow assessment of rearfoot pathologies including pes cavus and flatfoot. This module assumes there are no significant ankle or leg deformities (for example, structural tibial deformities, posttraumatic injuries, congenital or articular deformities) that affect the rearfoot. Such deformities should be either excluded or appropriately addressed in the investigational design that uses this module.

### Radiographic Section

(1) *Calcaneal-tibial angle (Fig 4).* The angular relationship of the heel with the lower leg is evaluated using the calcaneal-tibial angle.

(2) *Calcaneal translational displacement (Fig 5).* The position of the heel may vary in its position with regard to the long axis of the lower leg. The calcaneus generally lies medial to this longitudinal axis of the tibia.



### ACFAS Scoring Scale Module 3: Rearfoot (including Flatfoot)

Page 1: Patient Questionnaire

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

#### INSTRUCTIONS to the Patient:

Please answer the following questions honestly with regard to the condition of your foot.

1. **Pain (30 points)**

Over the past month, how much has your foot pain limited your daily activities?

- I have no pain with normal activities (30)
- I have slight or occasional pain but no limitation of activities (22)
- I have moderate pain limiting some activities (14)
- I have pain and significant limitation of activities (6)
- I have severe pain that limits almost all activity (0)

2. **Appearance (5 points)**

How would you rate the appearance of your foot?

- I like it very much (5)
- I mostly like it (4)
- I'm not sure either way - neutral (3)
- I mostly do not like it (2)
- I definitely dislike it (0)

3. **Functional Capacities (15 points)**

Ability to function on one flight of stairs, incline, & uneven terrain (7 points)

- I have no difficulty (7)
- I have some difficulty (4)
- I have significant difficulty (0)

Walking Aids (5 points)

- I do not use any (5)
- I wear a prescription brace above my ankle (3)
- I use one cane or one crutch (3)
- I use either crutches, a walker or a wheelchair (0)

Shoes (3 points)

- I can wear normal shoes (3)
- I am able to wear only walking or athletic shoes (2)
- I am able to wear ONLY special order, orthopedic or custom shoes (0)

Total Points Page 1: \_\_\_\_\_



**ACFAS Scoring Scale**  
**Module 3: Rearfoot**  
**(including Flatfoot)**

Page 2: Objective Parameters

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

4. Radiographic Evaluation (18 points)

**Lateral (Weight-bearing) View**

**Sagittal Plane Talo-First Metatarsal Declination Angle (3 points)**

- 0 +/- 5° (3)  
 < 5° (0)

**Calcaneal Inclination Angle (3 points)**

- 15-25° (3)  
 < 15° or > 25° (0)

**Frontal Plane (Long leg calcaneal axial WB) View**

**Calcaneal-Tibial Angle (6 points)**

- ≤ 2° varus to ≤ 4° valgus (6)  
 > 2° varus to > 4° valgus (0)

or

**Calcaneal Translational Displacement (6 points)**

- 5-10 mm lateral (6)  
 < or > 5-10 mm lateral (0)

**AP Weight-bearing View (Transverse Plane measurements)**

**Talo-First Metatarsal Declination Angle (3 points)**

- 0 +/- 5° (3)  
 > 5° (0)

**Talo-calcaneal Angle (3 points)**

- 15-30° (3)  
 < 15° or > 30° (0)

Total Points Page 2: \_\_\_\_\_



**ACFAS Scoring Scale**  
**Module 3: Rearfoot**  
**(including Flatfoot)**

Page 3: Objective Parameters

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

5. Function (32 points)

**Range of Motion (18 points)**

**Ankle**

**Dorsiflexion - knee extended (7 points)**

- 10-15° (7)
- 16-20° or 5-9° (4)
- > 20° or < 5° (0)

**Plantarflexion (4 points)**

- ≥ 30° (4)
- 15-29° (2)
- < 15° (0)

**Rearfoot**

**Subtalar Joint inversion / eversion (7 points)**

- 25-45° (7)
- 10-24° (4)
- < 10° or > 24° (0)

**Single Limb Heel Rise (9 points)**

- Able to perform multiple rises without difficulty (9)
- Performed with some difficulty (4)
- Unable to perform (0)

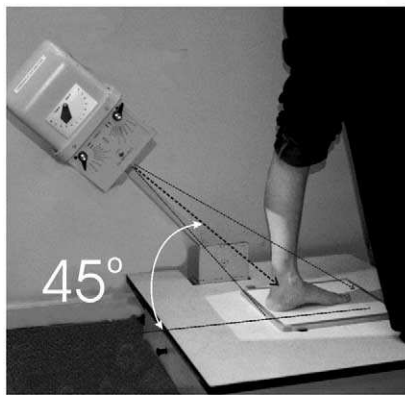
**Limp due to Foot Pain (without shoes) (5 points)**

- No (5)
- Yes (0)

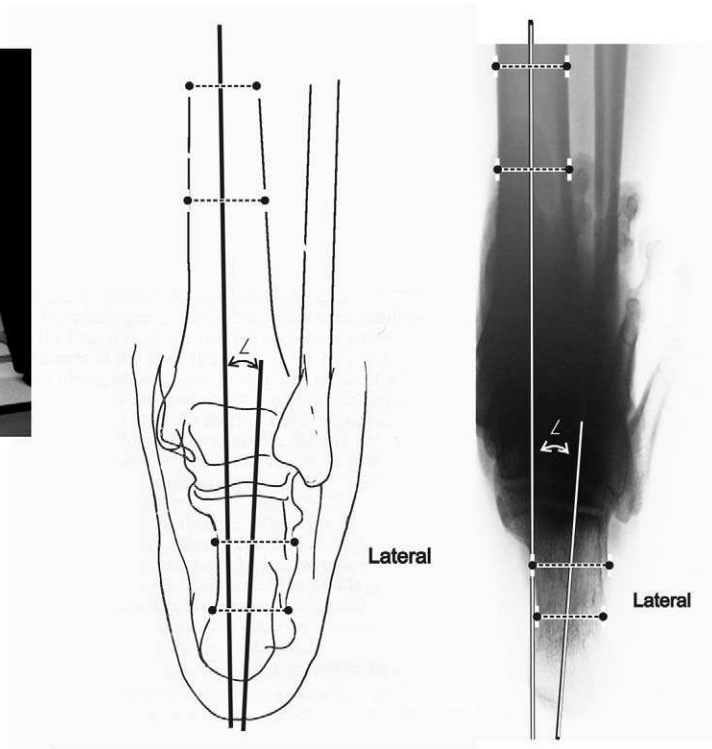
Total Points Page 3: \_\_\_\_\_

Total Points Module 3: \_\_\_\_\_

## XR: Foot - Standing Axial Calcaneal

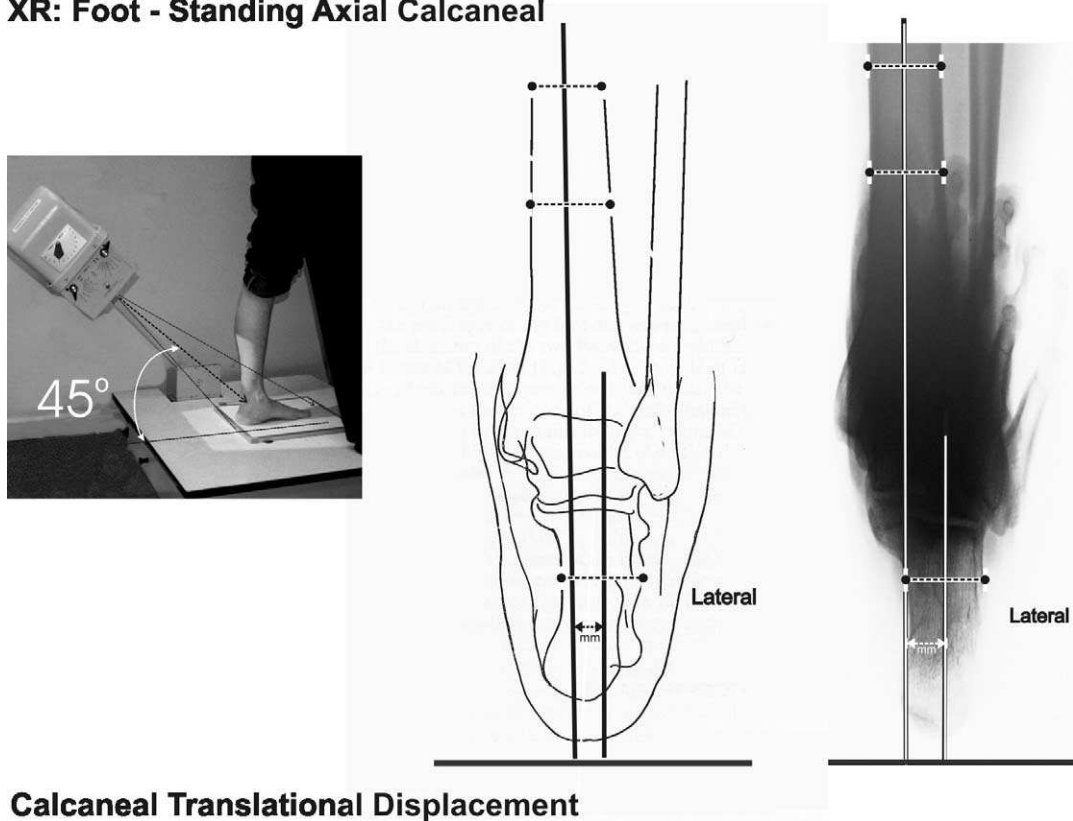


**Calcaneal Tibial Angle**



**FIGURE 4** The frontal plane angular deformity between the lower leg and foot may be assessed on the long leg calcaneal view with measurement of the angular deviation of the bisection of the tibia and the bisection of the calcaneus.

## XR: Foot - Standing Axial Calcaneal



**FIGURE 5** The calcaneus lies lateral to the weightbearing axis of the lower leg. This may be assessed radiographically by the calcaneal translational displacement, which is the distance between the longitudinal axis of the lower leg (bisection of the tibia) and the bisection of the calcaneus drawn on the long leg calcaneal axial view. The longitudinal axis of the tibia falls within the midpoint of the talar body but medial to the bisection of the calcaneus by 5 to 10 mm.

## Module 4: Ankle (21–29)

Module 4 provides a scoring scale for pathologies of the ankle. It may be used for pathologies from talar dome injuries to ankle fractures.

### Radiographic Section

Investigators should obtain radiographic images that encompass the distal one third of the leg.

(1) *Talocrural angle (Fig 6)*. The frontal plane axis of the ankle may be assessed from measurement of the talocrural angle on the anterior-posterior (AP) radiograph.

(2) *Lateral distal tibial angle (Fig 7)*. The lateral distal tibia angle describes the frontal plane relationship between the tibial plafond and the longitudinal axis of the tibia.

(3) *Anterior distal tibial angle (Fig 8)*. The anterior distal tibial angle describes the sagittal plane relationship of the tibial plafond to the longitudinal axis of the lower leg.



## ACFAS Scoring Scale

### Module 4: Ankle

Page 1: Patient Questionnaire

Patient: \_\_\_\_\_

Date: \_\_\_\_\_

Patient # \_\_\_\_\_

#### INSTRUCTIONS to the Patient:

Please answer the following questions honestly with regard to the condition of your ankle.

1. **Pain (30 points)**

Over the past month, how much has your ankle pain limited your daily activities?

- I have no pain with normal activities (30)
- I have slight or occasional pain but no limitation of activities (22)
- I have moderate pain limiting some activities (14)
- I have pain and significant limitation of activities (6)
- I have severe pain that limits almost all activity (0)

2. **Appearance (5 points)**

How would you rate the appearance of your ankle?

- I like it very much (5)
- I mostly like it (4)
- I'm not sure either way - neutral (3)
- I mostly do not like it (2)
- I definitely dislike it (0)

3. **Functional Capacities (15 points)**

Ability to function on one flight of stairs, incline, & uneven terrain (7 points)

- I have no difficulty (7)
- I have some difficulty (4)
- I have significant difficulty (0)

Walking Aids (5 points)

- I do not use any (5)
- I wear a prescription brace above my ankle (3)
- I use one cane or one crutch (3)
- I use either crutches, a walker or a wheelchair (0)

Shoes (3 points)

- I can wear normal shoes (3)
- I am able to wear only walking or athletic shoes (2)
- I am able to wear *only* special order, orthopedic or custom shoes (0)

Total Points Page 1: \_\_\_\_\_


Radiographic Special Considerations

Additional radiographic parameters or measurements may be incorporated depending on the pathology studied. The following radiographic evaluations score findings generally accepted as outside normal values or position. When

these are used, points should be deducted from the overall score of the module.

(1) **Joint space thickness.** Fifty percent of reduction in articular thickness is based on contralateral film, previous radiograph(s), or control group.

(2) **Tibial fibular overlap.** The investigator may wish to



**ACFAS Scoring Scale**  
**Module 4: Ankle**  
 Page 2: Objective Parameters

Patient: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Patient # \_\_\_\_\_

4. Radiographic Evaluation (18 points)

**AP View (6 points)**

**Lateral Distal Tibial Angle, anatomic axis (3 points)**

LDTA between 86-92° (3)  
 LDTA < 86° or > 92° (0)

**Tibial Talar Angle (3 points)**

0-4° varus or valgus (3)  
 5-9° varus or valgus (2)  
 ≥ 10° varus or valgus (0) \_\_\_\_\_

**Mortise View (3 points)**

**Talocrural Angle (3 points)**

83° ± 4° (3)  
 < 79° or > 87° (0)  
 > 5° variance compared to contralateral ankle (0) \_\_\_\_\_

**Long Leg Calcaneal axial weightbearing View (3 points)**

**Calcaneal-Tibial Angle (3 points)**

≤ 2° varus to ≤ 4° valgus (3)  
 > 2° varus to > 4° valgus (0) \_\_\_\_\_

**Lateral View (6 points)**

**Anterior Distal Tibial Angle, anatomic axis (3 points)**

ADTA between 78-82° (3)  
 ADTA < 78° or > 82° (0)

**Center of Rotational Axis of the Ankle (3 points)**

Talar lateral process directly under anatomic axis of tibia (3)  
 Displacement > 1cm anterior or posterior (0) \_\_\_\_\_

Total Points Page 2: \_\_\_\_\_

consider computed tomography (CT) scan (tibial-fibular distance) for better accuracy in this measurement.

(3) **Stress inversion, stress anterior drawer.** Multiple techniques are described in the literature for performance of the examinations. Interpretation of the radiographic measurements also varies; values are suggested.

Function Section

Balance measurements (one-legged stance, foot flat, opposite knee bent, hands extended in front of body, eyes closed) have proven to be effective in evaluating ankle function.



**ACFAS Scoring Scale**  
**Module 4: Ankle**

Page 3: Objective Parameters

Patient: \_\_\_\_\_  
Date: \_\_\_\_\_  
Patient # \_\_\_\_\_

4. Radiographic Evaluation - **OPTIONAL SECTION**  
**Special Considerations (Deductions)**

<b>Calcaneal Translational Displacement</b>	<b>(-3 points)</b>	
<input type="checkbox"/> < 5 mm or > 10 mm lateral (-3)		
<b>Joint Space Thickness</b>	<b>(-3 points)</b>	_____
<input type="checkbox"/> > 50% reduction (-3)		
<b>Tibial Fibular Overlap</b>	<b>(-3 points)</b>	
<input type="checkbox"/> < 6 mm (-3)		
<b>Medial Clear Space</b>	<b>(-3 points)</b>	
<input type="checkbox"/> ≥ 4 mm (-3)		
<b>Stress Inversion</b>	<b>(-3 points)</b>	
<input type="checkbox"/> ≥ 5° compared to contralateral ankle (-3)		
<b>Stress Anterior Drawer</b>	<b>(-3 points)</b>	
<input type="checkbox"/> Positive (> 4 mm) (-3)		

5. Function (32 points)  
**Range of Motion (18 points)**

<b>Ankle</b>			
<b>Dorsiflexion, knee extended (7 points)</b>		<b>Plantarflexion</b>	<b>(4 points)</b>
<input type="checkbox"/> 10-15° (7)		<input type="checkbox"/> > 30°	(4)
<input type="checkbox"/> 16-20° or 5-9° (4)		<input type="checkbox"/> 15-29°	(2)
<input type="checkbox"/> > 20 or < 5° (0)		<input type="checkbox"/> < 15°	(0)

**Rearfoot (Calcaneal inversion/eversion) (7 points)**

<input type="checkbox"/> 25-45° (7)	
<input type="checkbox"/> 10-24° (4)	
<input type="checkbox"/> < 10 or > 45° (0)	

**Balance (Rhomberg Test) (9 points)**

<input type="checkbox"/> 15 - 20 seconds (9)	
<input type="checkbox"/> 5 - 15 seconds (5)	
<input type="checkbox"/> < 5 seconds (0)	

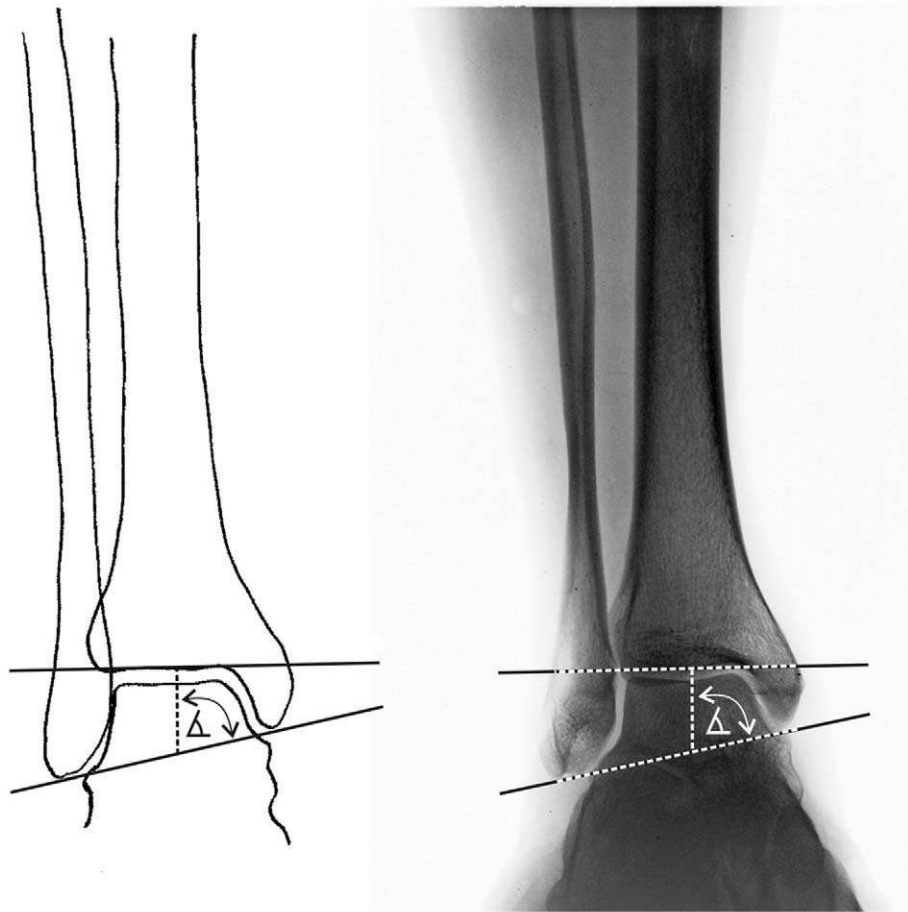
**Limp due to Ankle Pain (without shoes) (5 points)**

<input type="checkbox"/> No (5)	
<input type="checkbox"/> Yes (0)	

Total Points Page 3: \_\_\_\_\_

Total Points Module 3: \_\_\_\_\_

## XR: Ankle - Standing AP

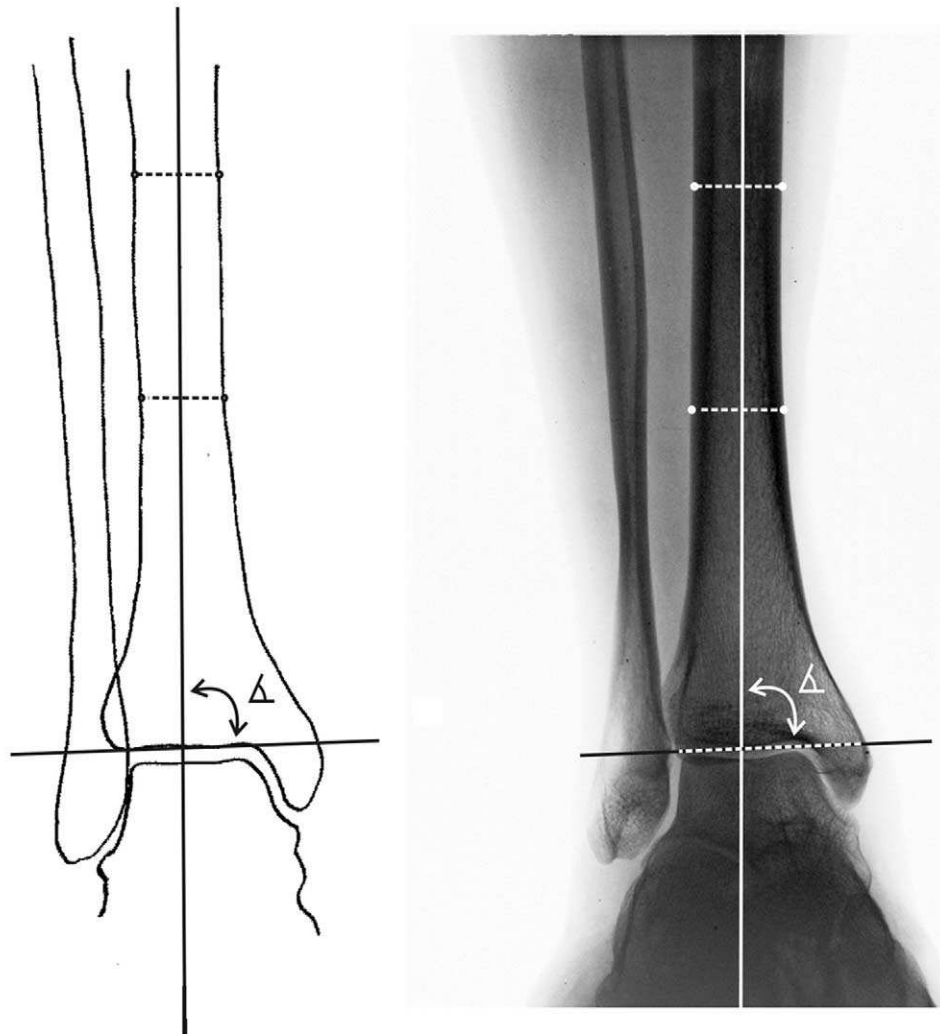


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### Talocrural Angle

**FIGURE 6** The talocrural angle is drawn on the AP ankle radiograph defined by (A) a perpendicular to a tangent line to the tibiotalar joint and (B) the axis line of the malleoli.

## XR: Ankle - Standing AP

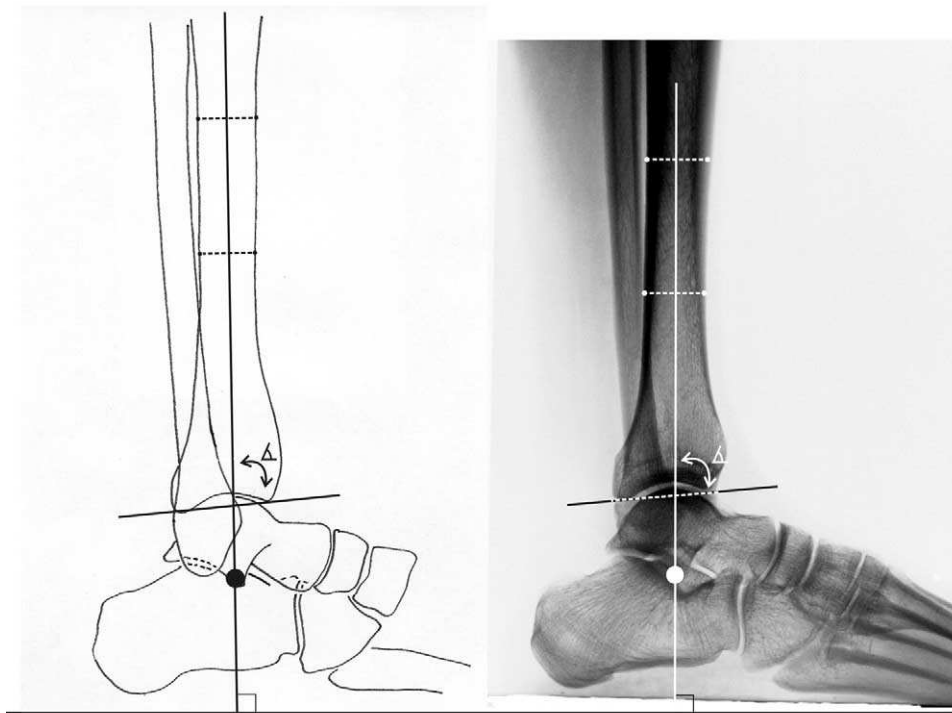


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### Lateral Distal Tibial Ankle (LDTA)

**FIGURE 7** The lateral distal tibial angle is drawn on the AP ankle radiograph, defined by the angle of (A) the tangent line to the tibiotalar joint and (B) the longitudinal axis line of the distal tibia.

## XR: Ankle - Standing Lateral



### Anterior Distal Tibial Ankle (ADTA)

**FIGURE 8** The anterior distal tibial angle (ADTA) is drawn on the lateral ankle radiograph defined by (A) a tangent line to anterior and posterior margins of the tibiotalar joint and (B) the longitudinal axis line of the distal tibia. Note that the long axis of the tibia passes through the lateral talar process.

### Summary

The American College of Foot and Ankle Surgeons through the individuals listed have developed a comprehensive scoring scale to allow for a more uniform evaluation of clinical research. It is the hope of our organization and the committee that these individual modules developed specifically for anatomic segments of the foot and ankle be adapted and used by researchers.

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