Ottawa Ankle Rules

Ottawa Ankle Rules palpation points (Figure 1 and 2):
Lateral view showing the distal 6 cm of the posterior edge of the lateral malleolus (Figure 1).
Medial view showing the distal 6 cm of the posterior edge of the medial malleolus (Figure 2).

Clinical interpretation:
If a patient reports pain in the “malleolar zone” and if this is accompanied by pain on palpation of the distal 6 cm of the posterior edge of the medial malleolus, or pain on palpation of the distal 6 cm of the posterior edge of the lateral malleolus, or an inability to weight-bear four steps immediately after injury and upon clinical presentation, then an ankle joint X-ray is warranted.

Figure 1. Lateral view showing the distal 6 cm of the posterior edge of the lateral malleolus.
Figure 2. Medial view showing the distal 6 cm of the posterior edge of the medial malleolus.
Anterior talofibular ligament palpation

Recommended position for palpating the anterior talofibular ligament (Figure 3):
With the ankle joint plantar flexed and the foot inverted and internally rotated the clinician can palpate the anterior talofibular ligament at its attachment to the distal tip of the lateral malleolus.

Clinical assessment:
The ligament is subcutaneous and can be palpated at its origin at the anterior margin of the distal tip of the lateral malleolus.

Clinical interpretation:
Replication of the patient’s “known pain” upon palpation of the anterior talofibular ligament is indicative of injury to this ligament.

Figure 3. The left index finger of the clinician is positioned at the distal tip of the lateral malleolus and is palpating the fibular attachment of the anterior talofibular ligament. The ankle joint is positioned in plantar flexion whilst the foot is inverted and internally rotated.
**Anterior talofibular ligament stress test**

*Recommended position for “stressing” the anterior talofibular ligament (Figure 4):*

The ankle joint is passively plantar flexed whilst the foot is passively inverted and internally rotated.

**Clinical assessment:**
The anterior talofibular stress test is performed by passively moving the ankle joint into plantar flexion combined with inversion and internal rotation of the foot.

**Clinical interpretation:**
Replication of the patient’s “known pain” upon “stressing” of the anterior talofibular ligament is indicative of injury to this ligament.

Figure 4. In this figure the clinician has passively plantar flexed the ankle joint and has also passively inverted and internally rotated the foot.
Anterior talofibular ligament anterior drawer test

Recommended position for performing the anterior talofibular ligament anterior drawer test (Figure 5 and 6):
Start position (Figure 5)
Presence of a “sulcus sign” (Figure 6)

Clinical interpretation: The anterior talofibular ligament anterior drawer test can be used to determine whether the anterior talofibular ligament is completely disrupted/ruptured. The presence of a “sulcus sign” is indicative of complete disruption/rupture.
Figure 6. Presence of a “sulcus sign”. This figure illustrates the end position of an anterior drawer test. A clear “sulcus sign” is identified anterior to the lateral malleolus.
Calcaneofibular ligament palpation

Recommended position for palpating the calcaneofibular ligament (Figure 7): The patient is positioned in side-lying. The calcaneofibular ligament is palpated along a line directed at 135° oriented from the tip of the lateral malleolus to the posterior-lateral edge of the calcaneus.

Clinical assessment:
The distal portion of the ligament is subcutaneous and can be palpated distal to the peroneal tendons.

Clinical interpretation:
Replication of the patient’s “known pain” upon palpation of the calcaneofibular ligament is indicative of injury to this ligament.

Figure 7. The index finger of the clinician is positioned on a portion of the calcaneofibular ligament just distal to the peroneal tendons.
Syndesmosis ligament palpation

*Recommended position for palpating the syndesmosis (Figure 8):*
The anterior inferior tibiofibular ligament portion of the ankle joint syndesmosis ligament complex can be palpated at the anterior margin of the ankle joint.

Clinical assessment:
The syndesmosis ligament can be palpated at the anterior margin of the ankle joint.

Clinical interpretation:
Replication of the patient’s “known pain” upon palpation of the syndesmosis ligament is indicative of injury to this ligament.

![Figure 8. The clinician’s thumb is positioned on a portion of the anterior tibiofibular ligament.](image-url)
Syndesmosis squeeze test

Recommended position for performing the syndesmosis squeeze test (Figure 9):
The syndesmosis squeeze test is performed with the patient in supine lying.

Clinical assessment:
The syndesmosis squeeze test is performed by stabilizing the tibia whilst simultaneous approximating (i.e. squeezing) the proximal fibula against the tibia.

Clinical interpretation:
Replication of the patient’s “known pain” is indicative of injury to this ligament.

Figure 9. The tibia is stabilized whilst the fibula is approximated (“squeezed”) against the tibia.
Ankle joint swelling

*Recommended position for performing the figure-of-eight method of ankle swelling measurement* (Figure 10 and 11):

*Clinical assessment:*  
The measurement is performed as follows: (1) the beginning of the measuring tape is placed midway between the tibialis anterior tendon and lateral malleolus; (2) it is drawn in a medial direction across the instep just distal to the tuberosity of the navicular; (3) it is then pulled across the plantar aspect of the foot to a point just proximal to the base of the 5th metatarsal; (4) it is then pulled across the tibialis anterior tendon and around the ankle joint below the distal tip of the medial malleolus; (5) it is then pulled around the Achilles tendon and distal to the lateral malleolus; (6) to complete the figure-of-eight the measuring tape is pulled to the starting point.

![Figure 10. Lateral view of the figure-of-eight method of ankle swelling measurement.](image)
Figure 11. Anterior-medial view of the figure-of-eight method of ankle swelling measurement.
Weight-bearing lunge test

Recommended position for performing the weight-bearing lunge test (Figure 12 and 13):

Clinical assessment:
To perform this test the patient lunges forward trying to touch a vertical line on the wall with their knee while maintaining their test foot and heel in contact with the ground (i.e. foot flat position). The contralateral limb is positioned behind the testing limb in a comfortable position whilst the patient’s hands are placed on the wall. To find the position of maximum dorsiflexion the clinician guides the patient to move their test foot away from the wall in small increments with the objective of maintaining knee contact with the wall and a foot flat position. The final position before knee contact in a foot flat position cannot be maintained is classified as maximum dorsiflexion. The distance from the tip of the great toe to the wall is measured in this position.
Figure 12. Posterior-lateral view of the weight-bearing lunge test.
Figure 13. Medial view of the weight-bearing lunge test.
Ankle joint eversion strength test

Recommended position for testing isometric ankle joint eversion strength (Figure 14):

Clinical assessment:
Symmetry of ankle joint strength can be assessed by utilizing the non-injured limb as a comparator.

Figure 14. A hand-held dynamometer is used to assess ankle joint isometric eversion strength.
Ankle joint inversion strength test

Recommended position for testing isometric ankle joint inversion strength (Figure 15):

Clinical assessment:
Symmetry of ankle joint strength can be assessed by utilizing the non-injured limb as a comparator.

Figure 15. A hand-held dynamometer is used to assess ankle joint isometric inversion strength.
Ankle joint dorsiflexion strength test

Recommended position for testing isometric ankle joint dorsiflexion strength (Figure 16):

Clinical assessment:
Symmetry of ankle joint strength can be assessed by utilizing the non-injured limb as a comparator.

Figure 16. A hand-held dynamometer is used to assess ankle joint isometric dorsiflexion strength.
Balance Error Scoring System

*Balance Error Scoring System test positions (Figure 17 – 22):*
Double leg stance (firm surface)
Tandem stance (firm surface)
Single leg stance (firm surface)
Double leg stance (foam surface)
Tandem stance (foam surface)
Single leg stance (foam surface)

Clinical interpretation: Each of the test positions requires the patient to maintain the specified stance position for 20 seconds. During the 20-second test, the clinician counts the number of deviations (errors) from the specified stance position.

<table>
<thead>
<tr>
<th>Deviations (errors)</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Moving the hands off the hips</td>
</tr>
<tr>
<td>2</td>
<td>Opening the eyes</td>
</tr>
<tr>
<td>3</td>
<td>Step, stumble or fall</td>
</tr>
<tr>
<td>4</td>
<td>Abduction or flexion of the hip more than 30°</td>
</tr>
<tr>
<td>5</td>
<td>Lifting the forefoot or heel off the support surface</td>
</tr>
<tr>
<td>6</td>
<td>Remaining out of the specified stance position for &gt; 5 seconds</td>
</tr>
</tbody>
</table>

*The maximum total number of errors for any single stance position is 10*

*If a patient commits numerous deviations (errors) at the same time, only one deviation (error) is recorded*
Figure 17: Double leg stance (firm surface). The test is initiated and lasts for 20 seconds when the patient closes his/her eyes.
Figure 18: Tandem stance (firm surface). The test is initiated and lasts for 20 seconds when the patient closes his/her eyes.
Figure 19: Single leg stance (firm surface). The test is initiated and lasts for 20 seconds when the patient closes his/her eyes.
Figure 20: Double leg stance (foam surface). The test is initiated and lasts for 20 seconds when the patient closes his/her eyes.
Figure 21: Tandem stance (foam surface). The test is initiated and lasts for 20 seconds when the patient closes his/her eyes.
Figure 22: Single leg stance (foam surface). The test is initiated and lasts for 20 seconds when the patient closes his/her eyes.
Foot Lift Test

*Foot Lift Test position (Figure 23):*

*Clinical assessment:*
The patient maintains the specified stance position on one leg with the eyes closed for 30 seconds.

*Clinical interpretation:*
During the 30-second test, the clinician counts the number of times any part of the foot is lifted from the ground, and any touch downs with the other foot.
Figure 23: The test is initiated and lasts for 30 seconds when the patient closes his/her eyes.
Star Excursion Balance Test

Star Excursion Balance Test positions (Figure 24 – 27):
Start position
Anterior reach direction
Posterior-medial reach direction
Posterior-lateral reach direction

Clinical interpretation: The reach distance achieved is normalized relative to the patient’s test leg length (measured as the distance from the ipsilateral anterior superior iliac spine to the tip of the ipsilateral medial malleolus)

\[
\frac{\text{reach distance achieved (cm)}}{\text{leg length (cm)}} \times 100
\]
Figure 24. Start position.
Figure 25. Anterior reach direction.
Figure 26. Posterior-medial reach direction.
Figure 27. Posterior-lateral reach direction.
Tegner Activity Level Scale

Please indicate in the space below the **HIGHEST** level of activity that you participated in **BEFORE YOUR INJURY** and the highest level you are able to participate in **CURRENTLY**.

**BEFORE INJURY:** Level: _______

**CURRENTLY:** Level: _______

<table>
<thead>
<tr>
<th>Level</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Level 10</td>
<td>Competitive sports: soccer, football, rugby (national elite)</td>
</tr>
<tr>
<td>Level 9</td>
<td>Competitive sports: soccer, football, rugby (lower divisions), ice hockey, wrestling, gymnastics, basketball</td>
</tr>
<tr>
<td>Level 8</td>
<td>Competitive sports: racquetball or bandy, squash or badminton, track and field athletics (jumping, etc.), down-hill skiing</td>
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<tr>
<td>Level 7</td>
<td>Competitive sports: tennis, running, motorcars speedway, handball</td>
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<tr>
<td></td>
<td>Recreational sports: soccer, football, rugby, bandy, ice hockey, basketball, squash, racquetball, running</td>
</tr>
<tr>
<td>Level 6</td>
<td>Recreational sports: tennis and badminton, handball, racquetball, down-hill skiing, jogging at least 5 times per week</td>
</tr>
<tr>
<td>Level 5</td>
<td>Work: heavy labor (construction, etc.)</td>
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<tr>
<td></td>
<td>Competitive sports: cycling, cross-country skiing,</td>
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<tr>
<td></td>
<td>Recreational sports: jogging on uneven ground at least twice weekly</td>
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<tr>
<td>Level 4</td>
<td>Work: moderately heavy labor (e.g. truck driving, etc.)</td>
</tr>
<tr>
<td>Level 3</td>
<td>Work: light labor (nursing, etc.)</td>
</tr>
<tr>
<td>Level 2</td>
<td>Work: light labor</td>
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<tr>
<td></td>
<td>Walking on uneven ground possible, but impossible to back pack or hike</td>
</tr>
<tr>
<td>Level 1</td>
<td>Work: sedentary (secretarial, etc.)</td>
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<tr>
<td>Level 0</td>
<td>Sick leave or disability pension because of knee problems</td>
</tr>
</tbody>
</table>
Foot and Ankle Ability Measure (FAAM)

Please answer **every question** with one response that most closely describes to your condition within the past week. If the activity in question is limited by something other than your foot or ankle mark **not applicable (N/A)**.

<table>
<thead>
<tr>
<th>Activity</th>
<th>No difficulty</th>
<th>Slight difficulty</th>
<th>Moderate difficulty</th>
<th>Extreme difficulty</th>
<th>Unable to do</th>
<th>N/A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Standing</td>
<td></td>
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<tr>
<td>Walking on even ground</td>
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<tr>
<td>Walking on even ground without shoes</td>
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<tr>
<td>Walking up hills</td>
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<tr>
<td>Walking down hills</td>
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<tr>
<td>Going up stairs</td>
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<tr>
<td>Going down stairs</td>
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<tr>
<td>Walking on uneven ground</td>
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<tr>
<td>Stepping up and down curbs</td>
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<tr>
<td>Squatting</td>
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<tr>
<td>Coming up on your toes</td>
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<tr>
<td>Walking initially</td>
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<tr>
<td>Walking 5 minutes or less</td>
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<tr>
<td>Walking approximately 10 minutes</td>
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<tr>
<td>Walking 15 minutes or greater</td>
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</tbody>
</table>
Because of your foot and ankle how much difficulty do you have with:

<table>
<thead>
<tr>
<th>No difficulty at all</th>
<th>Slight difficulty</th>
<th>Moderate difficulty</th>
<th>Extreme difficulty</th>
<th>Unable to do</th>
<th>N/A</th>
</tr>
</thead>
</table>

Home Responsibilities

Activities of daily living

Personal care

Light to moderate work (standing, walking)

Heavy work (push/pulling, climbing, carrying)

Recreational activities

How would you rate your current level of function during your usual activities of daily living from 0 to 100 with 100 being your level of function prior to your foot or ankle problem and 0 being the inability to perform any of your usual daily activities?

.0 %