Sideline management of ankle sprains — *assessment and initial treatment*

Roald Bahr MD PhD

- **Professor & Chair** | Oslo Sports Trauma Research Center | Norwegian School of Sport Sciences | Oslo, Norway
- **Chief Medical Officer** | Olympiatoppen & Norwegian Olympic Olympic Training Center | Oslo, Norway
- **Head** | Aspetar Injury & Illness Prevention Program | Aspetar, Qatar Orthopaedic and Sports Medicine Hospital | Doha, Qatar
You are on the sideline...
Which diagnoses are on your mind running onto the FOP?
Your turn!

Diagnosis?

0’00
Differential diagnoses:

Ligament injury:
- lateral
- medial

Syndesmosis injury

Ankle dislocation

Midfoot injuries

Fractures:
- lateral malleolus
- medial malleolus
- base 5th metatarsal
- talus
- calcaneus

Tendon injury:
- tibialis posterior
- peroneus (dislocation)
- Achilles

Growth plate injury

Others?
Lateral ligament injury:

<5 out of 10?
Lateral ligament injury: <7 out of 10?
Lateral ligament injury:

9 out of 10?
Lateral ligament injury: 95 out of 100?
Lateral ligament injury:

99 out of 100?
## Problem: Acute ankle sprain

<table>
<thead>
<tr>
<th>COMMON</th>
<th>RARE</th>
<th>DO NOT MISS</th>
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<tbody>
<tr>
<td></td>
<td>Ligament injury: - medial</td>
<td>Growth plate injury (children)</td>
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<tr>
<td></td>
<td>Ankle dislocation</td>
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<td>Tendon injury: - tibialis posterior - peroneus (dislocation) - Achilles</td>
<td>Midfoot sprain</td>
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</tbody>
</table>
When you hear hoofbeats...
Significant factors: Age, sex, sport
Most important:
Mechanism
Mechanism?

- **Inversion:**
  - Lateral ligaments
  - Type A fracture
- **Eversion:**
  - Medial ligaments +/- syndesmosis
  - Type C fracture
- **External rotation:**
  - Syndesmosis +/- medial ligaments
  - Type B fracture
- **Dorsiflexion + supination:**
  - Rupture of peroneal retinaculum with tendon subluxation
Assessment - On the pitch:

1) Which way did you roll over?
2) Put your finger on the ATFL
3) If positive, you’re done!
4) Perhaps a quick check to rule out a fracture?
Palpation - Ottawa rules
What about grading?

Grade 1

Grade 2

Grade 3
Stress tests

Anterior drawer test

Talar tilt test
Theory of stress tests

- **Grade I:**
  - Partial tear; ATFL or CFL
  - Negative or 1+ ant. drawer, neg. talar tilt

- **Grade II:**
  - Torn ATFL; intact CFL
  - Positive ant. drawer (2+), negative talar tilt

- **Grade III:**
  - Torn ATFL and CFL
  - Positive ant. drawer (3+), positive talar tilt
How good are the tests?

- Limited accuracy: Large inter-individual variation
- Limited discrimination:
  - Difficult to detect 3-4 mm increase in anterior translation or 10-15 degree increase in talar tilt
- Acute stage: Apprehension and pain!
Treatment

Grade 1: Functional treatment

Grade 2: Functional treatment

Grade 3: ??????
Treatment options

Functional treatment, surgical repair and/or casting?

- **Equal results** with functional treatment as other treatment types regardless of degree of lateral ligament injury
- Functional treatment provides **quickest recovery** of full ROM and return to physical activity
- Functional treatment **does not compromise mechanical stability** more than other treatments
- Functional treatment is **safer and costs less**
Treatment

Grade 1: Functional treatment
Grade 2: Functional treatment
Grade 3: Functional treatment
Test no good!

Don’t need to know!
Stress tests

Anterior drawer test

Talar tilt test

*Stress testing is not essential in the acute stage!*
Treatment phases

- **Phase 1 (0-48 h):**
  - Minimize bleeding and swelling

- **Phase 2 (days):**
  - Regain normal pain-free ROM & remove swelling

- **Phase 3 (weeks):**
  - Regain normal strength and proprioceptive function
FOP treatment

- ICE
- COMPRESSION
- ELEVATION

REST/PROTECTION:
- no testing
- no walking
Aim:
A positive «blue toes sign»
Phase 1

*RICE procedure continued*

- **R(est)** - Crutches, absolutely NO testing or walking
- **I(ce)** - Ice pack or cold, running water: 20 min every 3-4 hours
- **C(ompression)** - Continuously for 48 hours
- **E(levation)** - Continuously for 48 hours
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