Federaal Kenniscentrum voor de Gezondheidszorg
Centre Fédéral d'Expertise des Soins de Santé
Belgian Health Care Knowledge Centre

Clinical practice guideline for acute ankle sprain

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Rationale

Frequent reason for encounter, both in primary care and in emergency departments

X-rays often used in the diagnosis process despite the Ottawa ankle rules (OAR), a decision tool allowing to exclude fractures on clinical grounds.

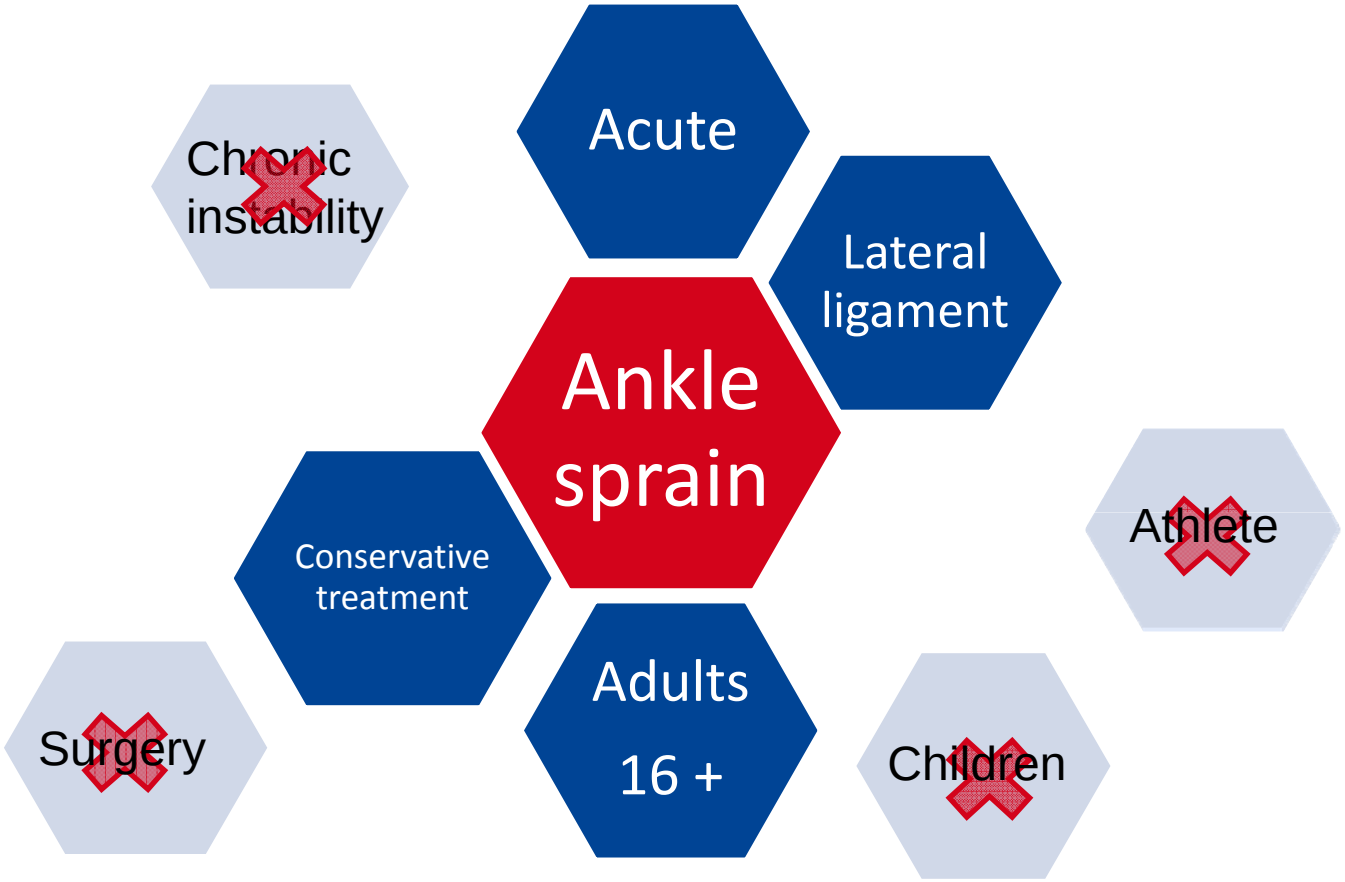
Questions about performance of other diagnostic methods (e.g. US, MRI)

Questions about effectiveness of several treatments (e.g. immobilisation)

Objective

- To offer an overview of the available evidence to all practitioners involved in the acute care of patients with ankle sprains

Scope


Chronic instability
Acute
Lateral ligament
Ankle sprain
Conservative treatment
Athlete
Surgery
Adults 16 +
Children

Methods

- Formulation of research question with experts and stakeholders
- Systematic review of literature : Several databases, hierarchical methods (Systematic review/Meta-analysis ➡ Guidelines ➡ Update by primary studies)
- Elaboration of recommendation according to GRADE methodology with experts and stakeholders
- Validation chaired by CEBAM

Diagnosis

Ottawa Ankle rules

Recommendation	Strength	Level of Evidence
The use of Ottawa Ankle Rules (OAR) is recommended to exclude a fracture after acute ankle sprain.	Strong	Moderate
Training of health care providers on OAR application is recommended.	Strong	Low

An ankle x-ray series is only required if
there is any pain in the malleolar zone and any of these findings:

1. bone tenderness at A
   OR
2. bone tenderness at B
   OR
3. inability to take 4 complete steps both immediately and in ED

A foot x-ray series is only required if
there is any pain in the midfoot zone and any of these findings:

1. bone tenderness at C
   OR
2. bone tenderness at D
   OR
3. inability to take 4 complete steps both immediately and in ED

RECOMMENDATIONS

Apply the Ottawa Ankle Rules accurately:

- palpate the entire distal 6 cm of the fibula and tibia
- do not neglect the importance of medial malleolar tenderness
- do not use for patients under age 18

Clinical judgement should prevail over the rules if the patient:

- is intoxicated or uncooperative
- has other distracting painful injuries
- has diminished sensation in the legs
- has gross swelling which prevents palpation of malleolar bone tenderness

Give written instructions and encourage follow-up in 5 to 7 days if pain and ability to walk are not better.

Stiell IG, McKnight RD, Greenberg GH, et al. Implementation of the Ottawa Ankle Rules. JAMA 1994; 271:827-832.

Ottawa Hospital Research Institute
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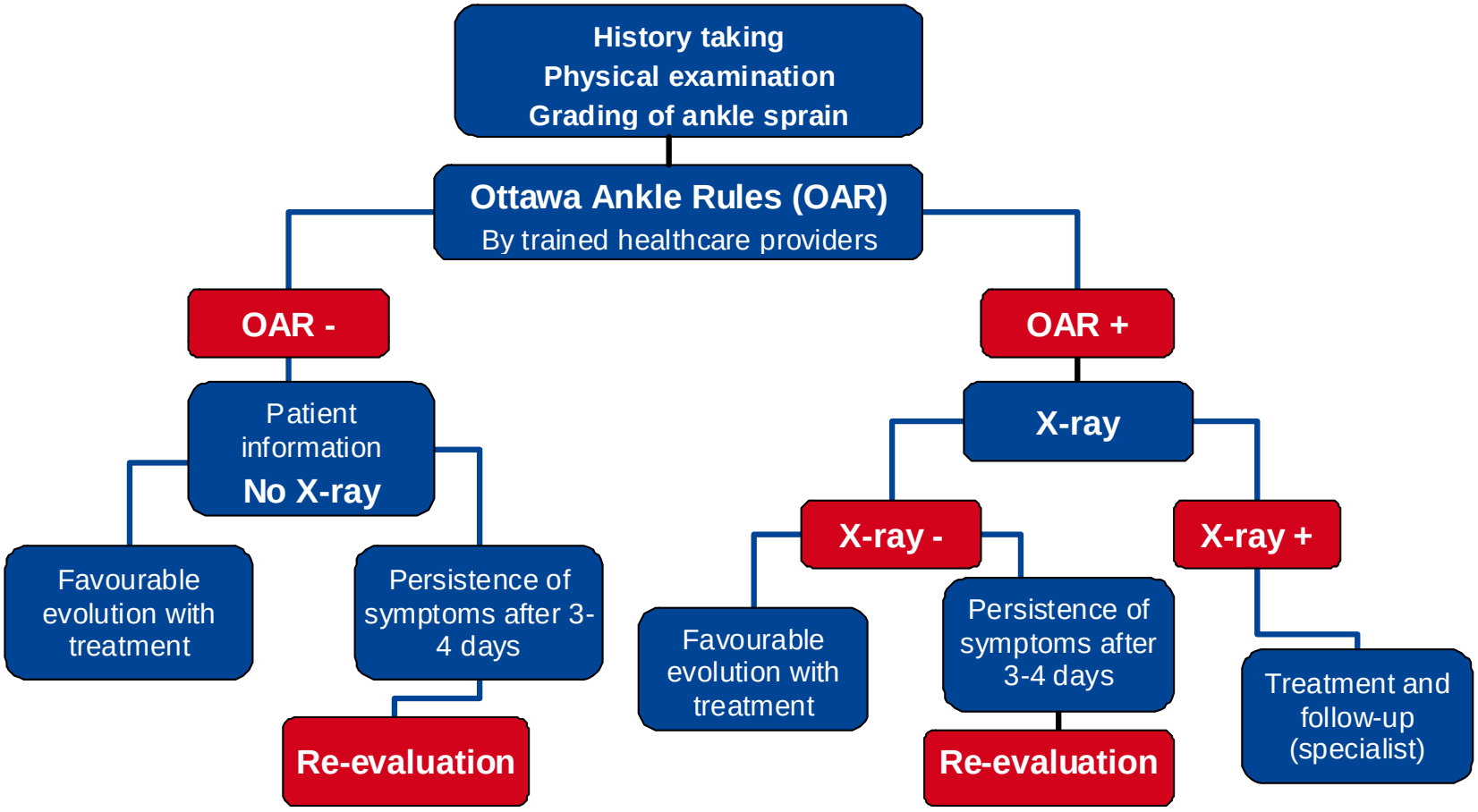
Diagnosis

Imaging

Recommendation	Strength	Level of Evidence
If the OAR give positive results, a **radiography** of good quality (3 views) is the recommended diagnostic technique for excluding a fracture in acute ankle sprain.	Strong	Moderate
If the OAR give positive results, **ultrasonography** performed by a physician specially trained in joint and bone ultrasonography could be considered for excluding fractures while reducing the need for radiographies. However, the experts underline the fact that the **organisational constraints** (e.g. waiting times, unavailability of trained radiologist) call for considering radiography as the first line diagnostic technique.	Weak	Very low
If the OAR give negative results, **radiographies should not be performed** in the initial assessment of an acute ankle sprain.	Strong	Moderate

Best practice (expert consensus)
Patients should be systematically informed about the **uselessness of X-ray after negative OAR results**.

Diagnosis


History taking
Physical examination
Grading of ankle sprain
Ottawa Ankle Rules (OAR)
By trained healthcare providers
OAR -
OAR +
Patient information
No X-ray
X-ray
Favourable evolution with treatment
Persistence of symptoms after 3-4 days
X-ray -
X-ray +
Favourable evolution with treatment
Persistence of symptoms after 3-4 days
Treatment and follow-up (specialist)
Re-evaluation
Re-evaluation

Treatment

Medication

Recommendation	Strength	Level of Evidence
Topical non-steroidal anti-inflammatory drugs (*diclofenac, ibuprofen & piroxicam*) are recommended for pain alleviation in acute ankle sprain.	Strong	Moderate
Paracetamol at therapeutic doses is recommended as an additional analgesic treatment in acute ankle sprain.	Strong	Low
Oral non-steroidal anti-inflammatory drugs (NSAIDs) can be considered **instead of topical** NSAIDs when topical NSAIDs combined with paracetamol are not effective for pain alleviation in acute ankle sprain.	Weak	Low
Treatment with **COX-II inhibitors** might be considered in patients with **gastrointestinal, renal or hepatic disease**.	Weak	Very low

Treatment

Ankle support

Recommendation	Strength	Level of Evidence
Treatment with **non-rigid** (e.g. elastic bandages, tapes) or **semi-rigid** ankle support (e.g. braces) is **preferred to immobilisation** with cast for the immediate treatment of a non severe acute ankle sprain.	Strong	Low
In **severe cases**, i.e. where the patient is unable to bear weight after 3 days, a **short period** (up to 10 days) of **immobilisation** with a cast can be considered on a case by case basis.	Strong	Low

Best practice (expert consensus)
The use of **simple non adhesive elastic bandages** is **not** advised in the treatment of acute ankle sprain.

Treatment

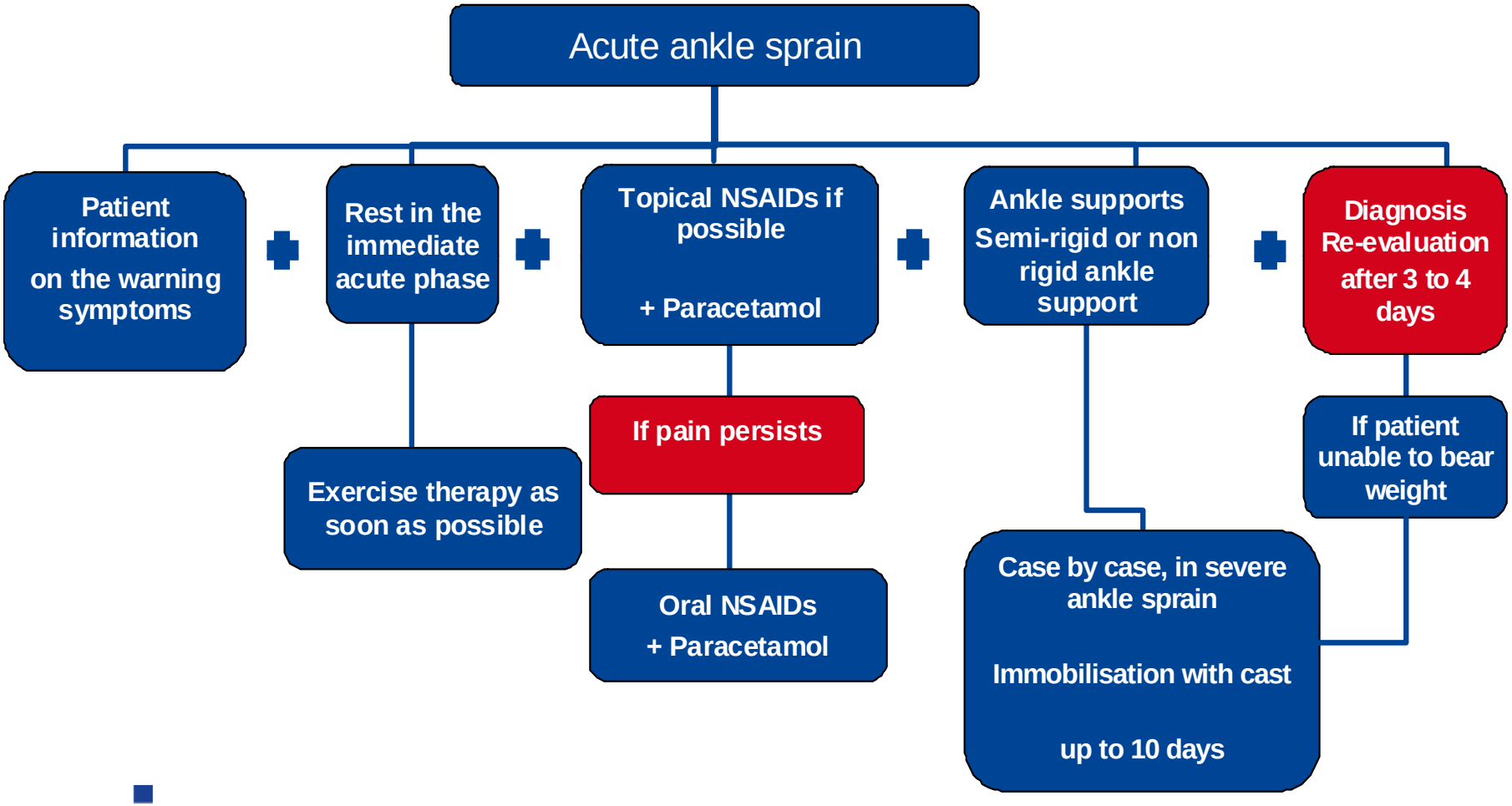
RICE

Best practice (expert consensus)
Rest without weight-bearing within the **3 first days** after acute ankle sprain is advised to avoid early overload and decrease pain.

Patients' information

Best practice (expert consensus)
Patients should be systematically informed about the **benefits and risks** of each treatment and the **warning symptoms** in case of unfavourable evolution of an acute ankle sprain.

Treatment


Acute ankle sprain
Patient information on the warning symptoms
Rest in the immediate acute phase
Topical NSAIDs if possible + Paracetamol
Ankle supports Semi-rigid or non rigid ankle support
Diagnosis Re-evaluation after 3 to 4 days
Exercise therapy as soon as possible
If pain persists
If patient unable to bear weight
Oral NSAIDs + Paracetamol
Case by case, in severe ankle sprain
Immobilisation with cast
up to 10 days

Recommendation

To the **National Council for Quality Promotion** and to **scientific associations** of emergency physicians, emergency nurses, general practitioners, orthopedists, physiotherapists, radiologists and podiatrists

- This guideline should be disseminated and translated into procedures, protocols, training material, vade mecums, ... in a user-friendly format for daily practice.
- Process and result indicators should be developed based on the recommendations from this guideline.

For **further research**

- There is a need for studies that consider the severity and the risk of recurrence of ankle sprains in their design.

Colophon

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- **Publication date: 21/03/2013**
- **Domain:Good Clinical Practice (GCP)**
- **MeSH: Ankle injuries; diagnosis; therapeutics; practice guideline**
- **NLM Classification:WE 880**
- **Language: English**
- **Format: Adobe® PDF™ (A4)**
- **Legal depot: D/2013/10.273/5**