

Lauge-Hansen Classification

The Lauge-Hansen classification is a method used for classifying ankle injuries based on the position of the foot and the deforming force at the time of injury. This system helps in understanding the biomechanics behind the fracture, aiding in more accurate treatment decisions.

Classification mechanism

The system uses two descriptors:

1. Position of the foot

Describes the position of the foot at the time of injury (e.g., supination or pronation).

2. Deforming force

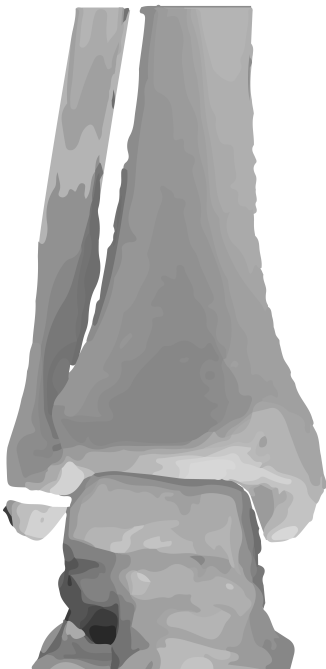
Describes the direction of the force applied during the injury (e.g., abduction, adduction, or external rotation).

Patterns of injury

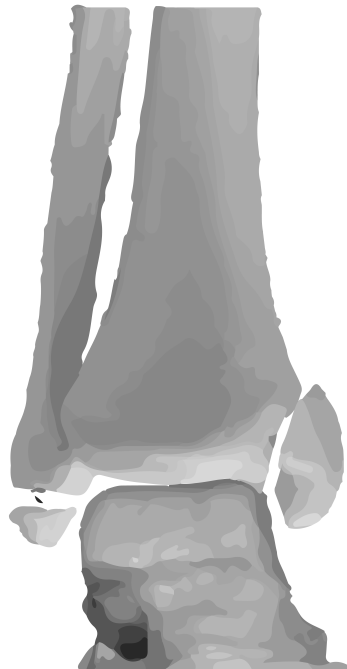
The Lauge-Hansen classification identifies several injury patterns, each associated with specific stages:

Supination-adduction

Stage 1



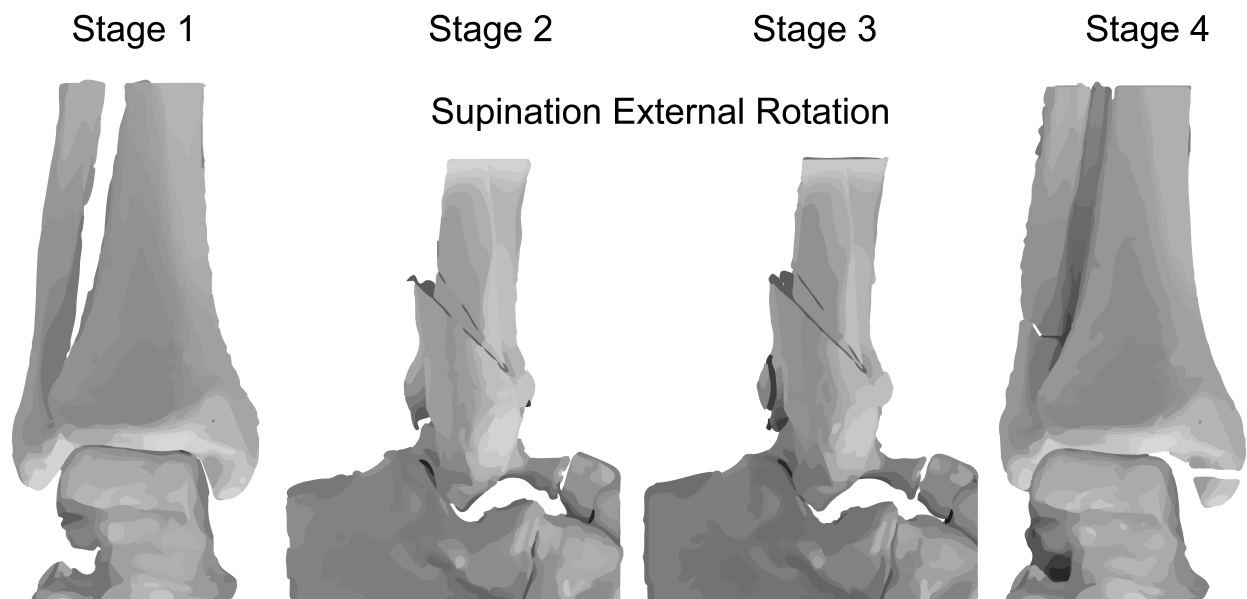
Stage 2



Supination adduction

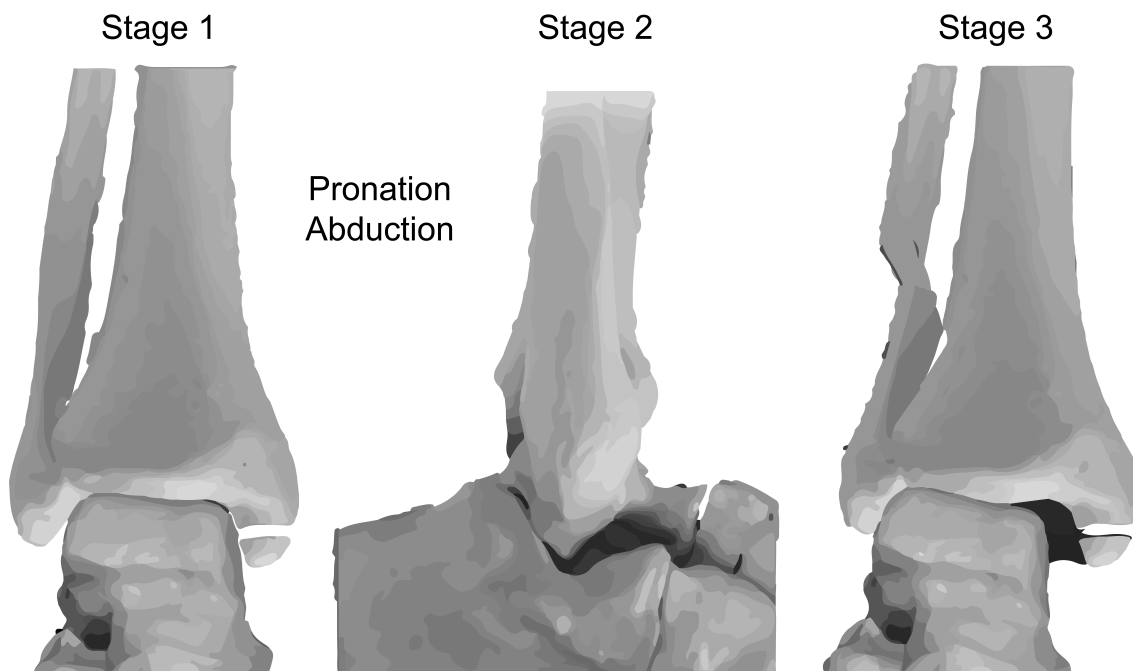
- Stage 1: Lateral malleolus fracture (Weber A).
- Stage 2: Oblique or vertical medial malleolar fracture.

Supination-External rotation (Most common)



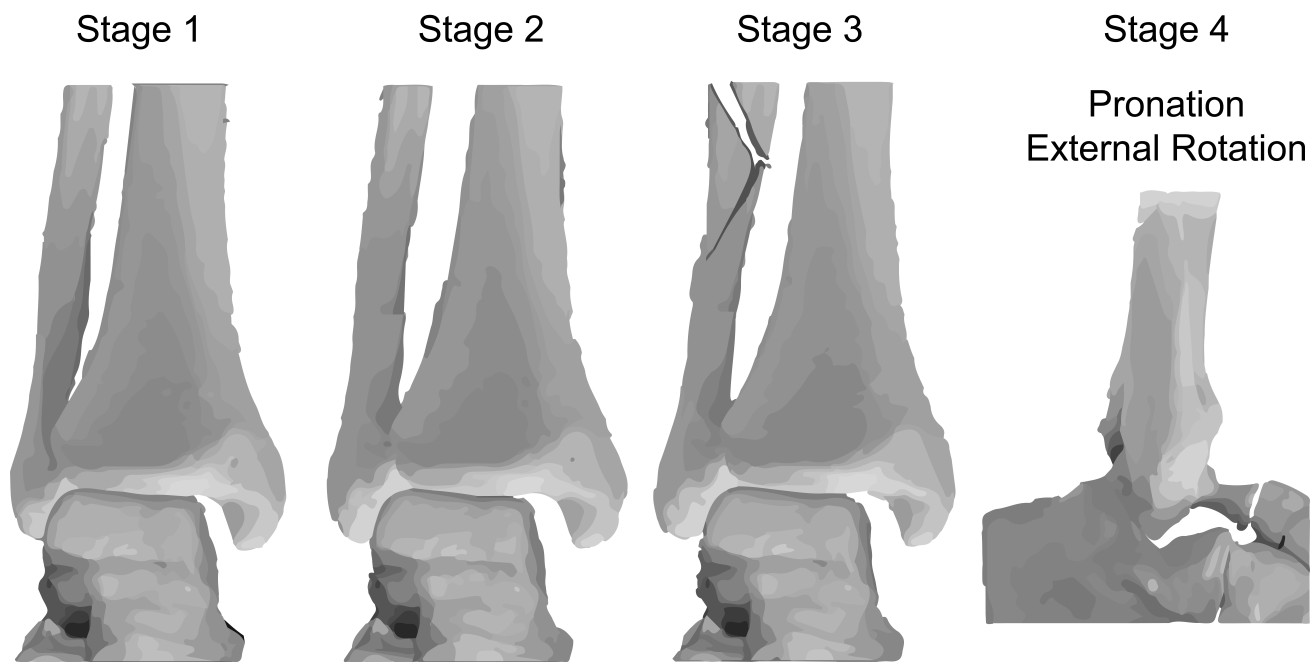
- Stage 1: Anterior-inferior tibiofibular ligament tear.
- Stage 2: Oblique or spiral fibular fracture at the level of the joint.
- Stage 3: Tear of the posteroinferior tibiofibular ligament or posterior malleolus fracture.
- Stage 4: Tear of the deltoid ligament or transverse avulsion fracture of the medial malleolus.

Pronation-abduction



- Stage 1: Deltoid ligament disruption or transverse medial malleolus fracture.
- Stage 2: Posterior malleolus fracture.
- Stage 3: High fibular fracture above the joint.

Pronation-External rotation



- Stage 1: Deltoid ligament rupture or medial mortise widening.
- Stage 2: Anterior tibiofibular ligament rupture with interosseous membrane involvement.
- Stage 3: Spiral or oblique fibular fracture above the joint.
- Stage 4: Posterior inferior tibiofibular ligament involvement or posterior malleolus fracture.

Diagnostic imaging and usage

- **X-ray:** Primary imaging technique to assess the type and extent of fractures.
- **MRI/CT scan:** Used for detailed evaluation of complex fractures and associated soft tissue injuries.

Reference

Lauge Hansen Classification of Ankle Fractures | *UW Emergency Radiology*. (n.d.). <https://faculty.washington.edu/jeff8rob/trauma-radiology-reference-resource/11-lower-extremity/lauge-hansen-classification-of-ankle-fractures/>

Rezaee, A. (2023, March 10). *Lauge-Hansen classification of ankle injury* | *Radiology Reference Article* | *Radiopaedia.org*. Radiopaedia. <https://radiopaedia.org/articles/lauge-hansen-classification-of-ankle-injury>.