

Ligamentotaxy

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Bone injury appears

When the bone suffers an aggression

Through the application of a force of high or low impact

Appears the fracture

She can be classified

 About the trace

 Fragment number

 Resultant of the aggression impact and its direction

Soft tissue

Has a great importance when doing the preparation and planning of the bone injury treatment

This injury more or less serious, with or without vascular injuries association can also have nervous injuries

Returning to the bone injury they can be

 complete or incomplete

 simple

 fractioned

 complex

 epiphyseal or diaphyseal

 open or closed

The medical target is

 The bone stabilization

 To create bone consolidation conditions

 The treatment of the concomitant lesions

 And the return to the physical and labour activity with the lower handicap

This goal can be achieved through

 Conservative or surgical treatment

 • internal osteosynthesis

 • external fixation

The main objective of the conservative treatment

Is to restore the full bone length and alignment and maintain the stabilization through manual, skin or bone traction

If we have splint or plasters applied, with wires or clamps included, works like an “External setting”.

External fixation

- The use of an External setting, in most of its devices, has the same principles of splint application
- The external devices can be classified in mono or biplanar, circular or hybrid

The device components are bone fixing clamps or wires and the connection components between those structures

Ligamentotaxy

- is used to reduce the fracture and maintain using the soft tissues – skin, muscles and ligaments

Ankle ligaments

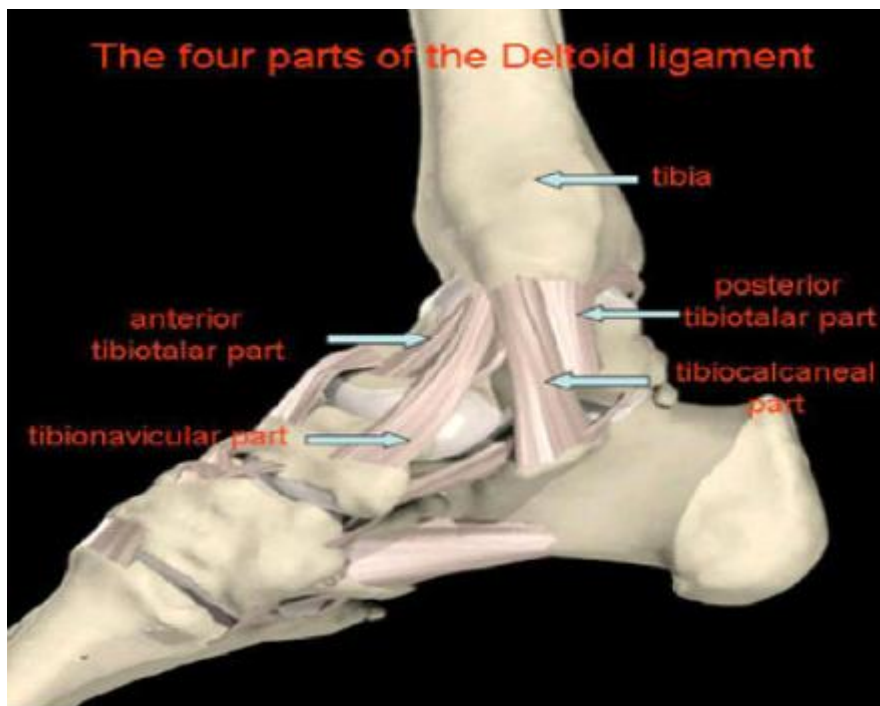
- external face



- posterior face



- internal face



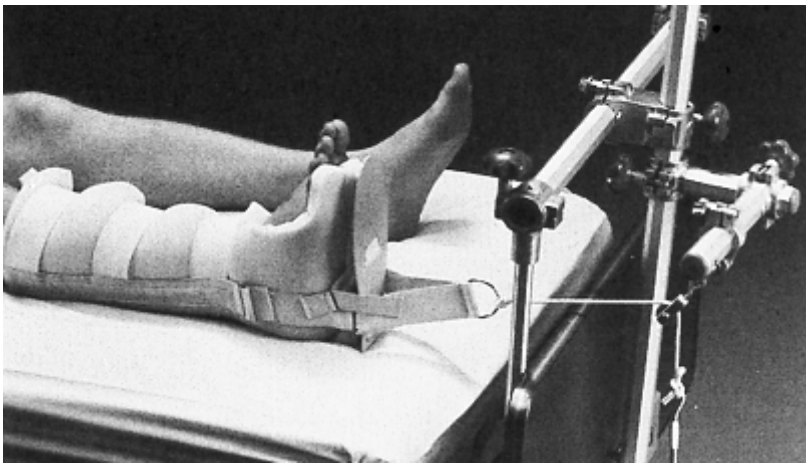
Aggression mechanism study's •

Before attempting reduction we must understand the aggression mechanism
way, direction, energy and component of the aggressive force

That's the way to obtain the opposite movements for our goal

Achieved the reduction, it's applied the EF to give independence to the patient until the bone consolidation.

The cutaneous traction was used by Buck, 1861, during the civil war, for the application of soft skin traction in lower members

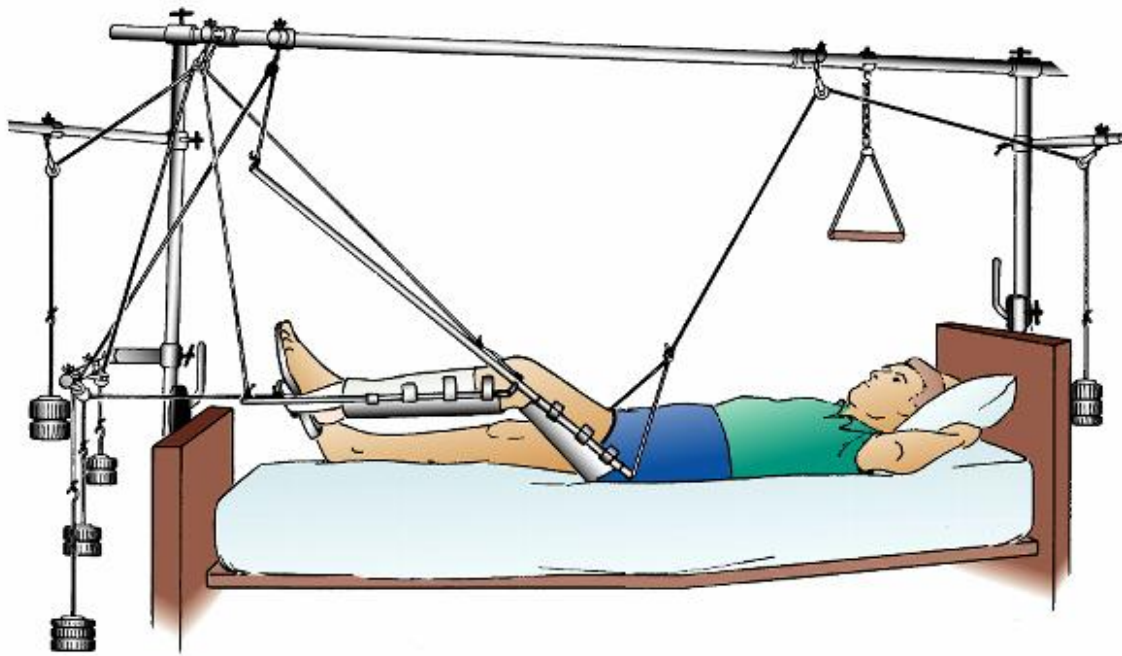


The splint for the bone traction was developed by H. Owen Thomas in England and introduced in World War I by Sir Robert Jones.



- Its use resulted in the decreasing of mortality, by shot wounds on femur's level, from more than 50% to 20%

Balanced suspension skeletal traction with Tomas leg splint



Common problems with the External fixator application

- Inflammation or infection of clamps or wires
- Components device movements or bone fragments
- Vases or nerves aggression
- Joint rigidity
 - From the necessary time to the consolidation
 - Or from soft tissue fixation to the bone by the clamps or wires

Cares to have during the external fixator application

- Identify the bone fragments
- Use free runners of the packet vasculo-nervous sinewy and try not fix tendons and muscles to the bone
- Leave open access to the injuries in the soft tissues
- Prevent oedema giving a space between the member and the device
- Not burn the bone and the skin during the application of the clamp or the wire

Post operation care

- Wash the assembly and the bolts with shower or Dakin's solution

Removal of the crusts that involve the clamps and wires without pushing the skin for inside - with compress as pulls the lustrum to the shoes
Local antibiotic application
Maintenance of the stability of the device

Feminine patient with 64 years old, natural and resident Famalicão
Laboring profession

Fall down from a bank resulting in an explosive # from the tibia pylon and the open fibula

Initial Rx



Photo before surgery



Patient position



Some technical appointments

