

## CALCANEUS FRACTURES - CASE REPORT

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### Abstract

The calcaneus is the bone in the back of the foot, commonly referred as the heel bone. This bone helps support the foot and is important in normal walking motions. Calcaneus fractures are almost always the result of high-energy injuries. Calcaneus fracture are extremely rare. We report two cases witch presented in the emergency room with posttraumatic pain, swelling, the loss of bimaleolar and achillian anatomical relation and functio laesa in the right lower limb. The calcaneus X- ray revealed the diagnosis. The fracture was surgically reduced and fixed using orthopaedic screws. In most cases the treatment is surgical, and has the following goals: restoring the congruence of the subtalar joint, restoring the height and width of the calcaneus, maintaining a normal articulation between the calcaneus and the cuboide bone and the correction of the varus following fractures. The recovery period of a calcaneus fracture is an important aspect in determining how well a patient will return to his pre-injury level of activity. The complications are frequent and vary from tendinitis, peronier stenosis, sural nerve damage, to local skin necrosis, surgical incision dehiscense, chronic pain, osteomyelitis, subtalar artrosis.

**Keywords:** Calcaneus fracture, surgery, pain

### Introduction

The calcaneus is the bone in the back of the foot, commonly referred to as the heel bone. This bone helps support the foot and is important in normal walking motions. The joint on top of the calcaneus is responsible for allowing the foot to rotate inwards and outwards.

Calcaneus fractures are almost always the result of high-energy injuries. They usually occur as a result of a fall from a height, such as falling from a ladder. Other causes of a calcaneus fracture include automobile accidents and sports injuries.

### Case report 1

We report the case of a 13 year old male patient who presented in the emergency room with posttraumatic pain, swelling, the loss of bimaleolar and achillian anatomical relation and functio laesa in the right lower limb. The calcaneus X- ray showed a longitudinal displaced fracture. The fracture was surgically reduced and fixed using orthopaedic screws, and the immobilisation was done using a

cast for 30 days. As a post-operative complication we report local skin necrosis, for which free flap skin graph was performed. The orthopaedic screws were removed after 30 days.

### Case report 2

The second case report is of an 18 old male patient with the posttraumatic pain, an open wound in the heel region with a protruding bone fragment and the traumatic section of the Achilian tendon, and functio laesa in the right lower limb. Clinical and radiological examination established the diagnosis of open calcaneus fracture with Achilian tendon section. The emergency treatment consisted in local antiseptic lavage, surgical reduction of the fracture with osteosintesis using screws and the suture of the Achilian tendon. Immobilisation was done using a cast for 30 days. Post-operative care included triple-association antibiotics, with no following complications. The orthopaedic screws were removed after 30 days.

### Discussion

Calcaneus fractures are extremely rare (approximately 2% of all fractures) in the orthopaedic trauma pathology. Calcaneal fractures are categorized into two types: Intra- and Extrarticular fractures on the basis of subtalar joint involvement. Intrarticular fractures are more common and involve the posterior talar articular facet of the calcaneus. The Sanders system classifies these fractures into four types, based on the location of the fracture at the posterior articular surface. Extrarticular fractures are less common, and located anywhere outside the subtalar joint.[3] Extrarticular fractures are categorized depending on whether the involvement of the calcaneus is anterior (Type A), Middle (Type B) or Posterior (Type C).

All patients with a calcaneus fracture must also be examined for other high-energy injuries. Studies have shown a large number of patients who have a calcaneus fracture will also have fractures of the lumbar spine (10 to 15 percent). In most cases the required treatment is surgical, and has the following goals: restoring the congruence of the subtalar joint, restoring the height and width of the calcaneus, maintaining a normal articulation between the calcaneus and the cuboide bone and the correction af the varus following fractures.

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Fig. 1. X-ray images:



Fig. 2. Intra-operative images:

The recovery period of a calcaneus fracture is an important aspect in determining how well a patient will return to his pre-injury level of activity. Patients will be required to keep weight off of the foot for as long as three months. The other critically important aspect of treatment is controlling swelling, especially in patients who have had

surgery. The best ways to control swelling includes elevation, immobilization, and ice application.

The complications are frequent and vary from tendinitis, peronier stenosis, sural nerve damage, to local skin necrosis, surgical incision dehiscence, chronic pain, osteomyelitis, subtalar artrosis.

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