



## Case Report

# Tibial shaft fracture and ankle injury – Case report<sup>☆</sup>

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### ABSTRACT

The authors report on a case of tibial shaft fracture associated with ankle injury. The clinical, radiological and surgical characteristics are discussed. Assessment of associated injuries is often overlooked and these injuries are hard to diagnose. When torque occurs in the lower limb, the ankle becomes susceptible to simultaneous injury. It is essential to make careful assessment based on clinical, radiographic, intraoperative and postoperative characteristics in order to attain functional recovery.

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## Fratura diafisária da tíbia e lesão do tornozelo – Relato de caso

### RESUMO

Os autores relatam um caso de fratura diafisária de tíbia associado à lesão do tornozelo. As características clínicas, radiológicas e cirúrgicas são discutidas. A avaliação de lesões associadas são muitas vezes negligenciadas e de difícil diagnóstico. Quando um torque no membro inferior ocorre, o tornozelo fica suscetível a uma lesão simultânea. É essencial uma avaliação cuidadosa baseada no aspecto clínico, radiográfico, intra e pós-operatório para recuperação funcional.

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### Palavras-chave:

Fixação interna de fraturas

Instabilidade articular

Tornozelo

## Introduction

The first description of the association of diaphyseal tibial fractures with additional ankle injury was made by Weber<sup>1</sup>

in 1972. As the tibial injury is visible and obvious, a potential associated ankle injury may be neglected. Distal tibiofibular syndesmosis instability may lead to subluxation of the talus. Once undiagnosed, ankle arthrosis may take place even if the

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**Fig. 1 – Image of the open diaphyseal fracture of the leg with no evidence of injury in the ankle joint.**

treatment for the diaphyseal tibial fracture has provided excellent reduction, stabilization, and consolidation.<sup>2</sup>

### Clinical report

Male patient, 28 years old, involved in a motorcycle accident with open fracture of the right leg (Fig. 1) classified as Gustilo IIIA.<sup>3</sup> He underwent cleaning, wound lavage, debridement of tissue lesions, and transarticular external fixation of the leg bones at the ankle joint aiming to provide local damage control.

On the sixth day after the trauma, with the improvement of the soft-tissue envelope of the left leg, internal fixation was performed with a locked intramedullary nail for the tibial fracture. During the surgical procedure, anterior dislocation of the ankle joint was observed (Fig. 2A and B). The authors opted for open reduction and internal fixation of the ankle fracture-dislocation with plate and screws in the fibula; instability of the ankle syndesmosis was proven with a positive Cotton<sup>4</sup> test. We associated the stabilization of the tibiofibular mortise using a positioning screw through the fibular cortex and the lateral cortex of the tibia, proximal to the distal tibiofibular joint, without a direct approach to the former. Final



**Fig. 2 – Radiographies images after insertion of the intramedullary nail, which shows dislocation of the ankle and ligament instability. (A) Anteroposterior and (B) lateral view.**

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