

# Osteosynthesis of the posterior edge of the tibia in treatment as the prevention of the ankle posttraumatic arthrosis.

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## Purpose of the study:

The posterior edge of the distal tibia is an important stabilising factor of the ankle joint. The first presentation of fracture of the posterior edge of the tibia was in 1828 by Henry Earle. This fragment in ankle fractures may play an important role in the posttraumatic joint condition and it is often neglected. The purpose of this study was to show the relevance and importance of the posterior edge of the distal tibia in the surgical treatment as the prevention of the ankle osteoarthritis and chronic tibiofibular instability.

## Materials and Methods

Prospective study was conducted from 2006 to 2008, with the total of 48 patients with diagnosed fracture of the posterior edge of the distal tibia. Surgical treatment with lag screws aplicated from the dorsal approach was done in 18 patients and evaluated with the Foot and Ankle Out-come Score (FAOS).

## Results

FAOS assessment: 16 patients (88,9 %) received more than 90 points and 2 patients (11,1 %) ranged between 80-90 points at six months follow-up. 17 patients (94,4 %) received more than 90 points and 1 patient (5,6 %) ranged beetwen 80-90 points one year after the surgical treatment. No arthrosis and no bone cysts of the posterior edge of the tibia was observed.

## Conclusions

As the prevention of the ankle posttraumatic osteoarthritis and chronic tibiofibular instability, the restoration of the congruence of the joint surface and the stable osteosynthesis of the posterior edge of the tibia is necessary. If the posterior edge of the tibia isn't addressed, the congruence of the joint surface can be disrupted and bone cysts frequently develop in this region after the union. The chronic subluxation of the fibula and talus can occur, too. All these factors contribute to osteoarthritis development which is accompanied with pain, movement limitation of the ankle joint, and the decrease of the patients quality of life.

