

## 18. TREATMENT OF TIBIAL BONE DEFECTS BY THE ILIZAROV METHOD

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**Introduction.** Open tibial bone fractures are the most common open fractures of long tubular bones, with an incidence of 3.4 per 100,000. The increased frequency is mainly due to high energy injuries, as a result of: road accidents, production injuries. One of the options for treating tibial bone and soft tissue defects is to replace the bone defect with the compression-distraction method with the use of continuous micro-displacement.

**Case presentation.** Patient, 44 years old, originally from Chernivtsi, Ukraine, injured in a car accident in Russia. He suffered an open fracture of the bones of the right leg in the distal metadiaphyseal region. He underwent primary surgery in Russia, where the primary surgical treatment of the wound was performed, the osteosynthesis of the leg bones with extra-focus fixator type Ilizarov. It is complicated by soft tissue necrosis in the post-traumatic region. He underwent repeated surgery in Chernivtsi, secondary surgical debridement of the wound, necrectomy. After 12 months after the trauma, he was admitted to the Department of Traumatology and Septic and Reparative Orthopedics of the IMSP SCTO with the diagnosis of: chronic posttraumatic osteitis of the right leg bones, septic pseudarthrosis, recalcitrant distal metadiaphysis of the right tibial bone, (Cierny Mader IV B), soft tissue and bone defect, recalcitrant pseudarthrosis of the right tibial bone. It was made: tibial bone sequestrectomy, drying the septic focus, soft tissue defect plasty with posterior tibial perforator flap, corticotomy at the level of the proximal metadiaphysis of the tibial bone for the substitution of 6 cm. of segmental defect of tibial bone, by the method of compression-distraction by the use of continuous microdeplacement and osteosynthesis with fixator Ilizarov. Defect replacement was made for 63 days. At day 64, the patient was readmitted and surgically reoperated: reassembling the extrafocus fixator. After 167 days, the consolidation of the fracture was obtained and the extra-focal fixator was removed.

**Discussion.** These severe traumas remain a challenge for orthopedic, plastic, vascular surgeons. The compression-distraction method by using continuous microdeplacement and osteosynthesis with extrafocus fixator Ilizarov has some disadvantages: the inconvenience of the patient, permanent monitoring by the orthopedic doctor, infections in the region of the extrafocus fixator pins.

**Conclusion.** Open fractures of the lower extremity are the most common open lesions of the long bones, but their management remains a matter of debate. External fixation it's a minimally invasive, effective method and relatively easy to perform by an experienced surgeon.