

## Management of Schatzker Type V and VI Tibial Plateau Fracture With Ilizarov Fixator

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**Purpose:** Tibial plateau fractures are generally classified according to the method developed by Schatzker. Among them type V and VI fractures are high-energy fractures often accompanied by other local and systemic injuries. Various modes of treatment are available for managing these, including definitive external fixation, dual plating, and locking plates, but the best treatment method still remains controversial. Alternative method of treatment with Ilizarov ring fixator is considered less invasive with excellent results as it allows closed reduction, minimal soft-tissue damage, and early mobilization of the joint. However, data regarding the outcome are limited.

**Methods:** 104 patients having Schatzker type V and VI treated with Ilizarov were included in the study. Among them 24 had open and 80 were having closed fractures with severe soft-tissue injury. 3 full ring assembly for tibia was used and 1 ring for femur was used where indicated. Minimum 4 beaded wires were used in the proximal tibial ring to reduce and stabilize the fracture. Patients were allowed weight-bearing as tolerated on the first postoperative day. In those patients in whom femoral ring was not included, immediate knee range of motion was started and in those patients in whom femoral ring was added, knee range of motion was started at 4 weeks after removal of femoral ring. Patients were followed for 1 year. The outcome was analyzed using Honkonen and Jarvinen criteria. Data were recorded in percentages.

**Results:** 32 patients were lost to follow-up and were excluded from the study. Age range of remaining patients was from 16-72 years. Almost 92% of patients healed within 12-16 weeks (mean = 14) and 8% of patients took 12-28 weeks (mean =20). 74% of patients regained full extension while 69% achieved more than 100° of flexion. Normal axial alignment was achieved in 88% of patients. Pin tract site infection was observed in 83%, which were treated successfully with daily dressing and antibiotics. At the end of 1 year, 9 patients had fair, 13 had good, and 50 had excellent results. None of our patients had poor scores using the Honkonen and Jarvinen criteria.

**Conclusion:** High-energy tibial plateau fractures can be definitively treated with Ilizarov external fixation. Treatment with this method gives good union rates and less risk of infection. Closed reduction, minimal soft-tissue damage, and early mobilization are the key to low complications. Ilizarov technique is well suited for treatment of complex fractures of proximal tibial type V and VI Schatzker with good outcomes in terms of attaining alignment and range of movement.