Correlation of Tibial Deformity using the Ilizarov/ Taylor Spatial Frame

S. Robert Rozbruch, MD; Svetlana Ilizarov, MD; Gavriil Ilizarov; Arkady Blyakher, MD
Institute for Limb Lengthening And Reconstruction
www.LimbLengthening.com

RESULTS

The average follow up was 19 months (range: 2-47). Planned deformity correction in different planes was achieved in all cases using TSF with chronic or residual mode. The average medial MAD improved from 28 mm (range: 9-100) to 4 mm medial (range: 0-9) or to 7 mm lateral (range: 1-13) in cases with intentional over correction. The average lateral MAD improved from 42 mm (range: 9-80) to 0 and in cases of osteoarthritis was overcorrected to 9 mm medial to midline (range: 4-18) to unload affected compartment of the knee. Simultaneous lengthening of 2.1 cm (range: 0.4-6) was done in 14 patients (16 limbs). Average time in a frame was 131 days (range: 77-355) and there were no nonunions. SF-36 improved in 4 categories. AAOS lower limb module scores increased from 76 to 89. Complications included cellulitis in one patient who was successfully treated with IV antibiotics, neuropraxia in 3 patients, which resolved after nerve release surgeries (all of these patients had previous lengthening procedures on the same limb in other institutions). One patient sustained a contralateral femur fracture after a fall during treatment and underwent open reduction and internal fixation.

CONCLUSION

Osteotomy of the tibia and fibula and the use of the Ilizarov/ Taylor Spatial Frame can be used effectively to correct leg deformities. All aspects of deformity are addressed including length. This technique uses a minimally invasive approach and gradual deformity correction. While both chronic and total residual programs were accurately used, the rings first total residual method is more user-friendly.