

Lecture I
New trends in cartilage repair
Donato Rosa

Lecture II
Tendon pathology and sports
Andrea Ferretti

Lecture III
Treatment of Bone Loss and Non-Union with Circular Fixator

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Device and producing company:

Ilizarov, Plustec

Introduction:

The aim of this study was to investigate the outcomes of non-union and bone defects of long bones treated with circular frames using the Ilizarov method.

Methods:

Forty-nine patients with 32 tibia, 8 femur, 2 humerus, 4 radius and 3 ulna nonunions were treated with the distraction method. There were 21 patients with bone defects (average 4.9 cm) and 27 patients with leg-length discrepancy (LLD) (average 3.5 cm). The number of previous surgeries was 1 to 8 (average 4). At the time of surgery, 17 (29%) nonunions were diagnosed as infected. All patients underwent repair of the non-union and application of Ilizarov frame. Patients with bone loss were additionally treated with lengthening techniques.

Results:

Bony union was achieved after the initial treatment in 43 (87%) patients. The 4 persistent non-unions were re-treated with external fixator reapplication. This resulted in final bony union in 47 (96%) patients. The average LLD was 1.8 cm (0-4.6). Alignment with deformity less than 5 degrees was achieved in 43 patients and alignment with more than 6 degrees was achieved in 6 patients. Bone and functional outcomes were excellent or good in 43 patients.

Discussion:

Ilizarov's segmental bone transport technique is a reliable option for the treatment of bone defects. The different technical difficulties and complications inherent in this method require the need for meticulous planning adapted to each surgical case.

Conclusion:

The Ilizarov method is particularly useful in treating stiff hypertrophic nonunions, infected non-unions, bone loss, LLD, and poor soft-tissue coverage. Infected nonunions have a higher risk of failure than non-infected cases.