

ABSTRACTS:

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LESSER METATARSAL OSTEOTOMY: RESULTS OF FIXATION VERSUS NONFIXATION

John E. Mancuso, DPM
Steven P. Abramow, DPM
Mark Landsman, DPM

A 10-year study was performed in which osteotomies were studied utilizing either the tilt up technique or sliding, proximal osteotomies. Indications include plantar callosities, intractable plantar keratoses, and plantar flexed or relatively elongated metatarsals. The speakers suggest that one must evaluate the biomechanical function, anatomical and structural location with severity of lesions and risk factors involved. Postoperative management includes full weightbearing with a surgical shoe for 4 weeks. Kirschner wires are removed in 4 weeks. A buried Kirschner wire was permanently placed.

Regarding the cases studied, for 5 years lesser metatarsals were not fixated. Over the next 5 years, these were fixated. One hundred fifty procedures in each category were evaluated. The rate of union with fixation was 91% while it was 64% without fixation. Delayed union occurred 7.5% with fixation while it was 29% in the nonfixated group. Malunions occurred in 1.5% of the fixated versus 5% of the nonfixated group. No nonunions occurred in the fixated while 2% occurred in the nonfixated group. The majority of fixated cases had zero to minimal bone callous formation, and the majority of nonfixated cases demonstrated moderate bone callous. Transfer lesions were twice as common (13%) in the nonfixated group. Failure to relieve the callous with twice as many recurrences was present in the nonfixated group. Transfer lesions in the fixated group (19%) were compared with 7% of the nonfixated group.

Most complications occurring in the fixated group were due to the devices, skin irritation, pin pain, or movement of the pin. Fractures were caused by a thin cortex of the dorsal metatarsal neck. Infection rates were low. In conclusion, nonfixated group demonstrated twice the failure rate compared with that of fixated metatarsal osteotomies. A higher incidence of bone callous was present with nonfixated bones. Dislocation was limited to nonfixated bones. Poor results in the nonfixated fourth metatarsal osteotomies were noted. Better results with nonfixated second metatarsal osteotomies were present. Kirschner wire fixation indicated its own inherent complications. A higher incidence of union was present with fixated bones.