

## VALGUS DEFORMITY AFTER PROXIMAL TIBIAL FRACTURES IN CHILDREN

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Late valgus deformity after simple fracture of the proximal tibial metaphysis in children, despite adequate initial alignment, was first described by Cozen (1953). It has been suggested in the "check rein" theory that infolding of the periosteum and the pes anserinus at the fracture site may alter the forces on the proximal tibia and lead to deformity. If this is so, then operative removal of this infolded tissue should correct this and be followed by normal growth (Weber 1977).

We report a patient who developed late valgus after such treatment, providing evidence which questions the efficacy of the operation.

**Case report.** A two-year-old boy sustained a closed, uncomplicated fracture of the proximal metaphysis of the right tibia in a fall (Fig. 1). At open operation, the fracture was reduced and a large periosteal and soft-tissue flap was removed from the fracture site. A long leg cast was retained for six weeks. Despite this, significant valgus deformity had developed 22 months later (Fig. 2) and a corrective osteotomy was performed. Twelve months later valgus deformity had recurred and a scanogram showed 1 cm of lengthening of the involved limb.

**Discussion.** The cause of late valgus deformity in this childhood fracture is unknown, though the complication is widely recognised. Deformity can occur despite adequate reduction and usually becomes apparent within the first six months (Cozen 1953). The results of corrective osteotomy for such late valgus deformity are unpredictable (Taylor 1963). It is, however, recognised that this late valgus deformity may undergo spontaneous correction (Zionts and MacEwen 1986), possibly by compensatory changes at the distal tibial epiphysis which give an S-shape to the tibia (Skak 1982).

The case we report demonstrates that late valgus deformity may occur despite open reduction with the removal of interposed soft tissues and confirms that there may be recurrence of valgus deformity after a corrective osteotomy. Since spontaneous correction can occur it is suggested that the ideal early treatment is closed reduction, which is held in a cast with the knee extended to allow accurate assessment of alignment, and that corrective osteotomy be deferred for at least three years after the time of fracture.

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0301-620X/87/3R26 \$2.00

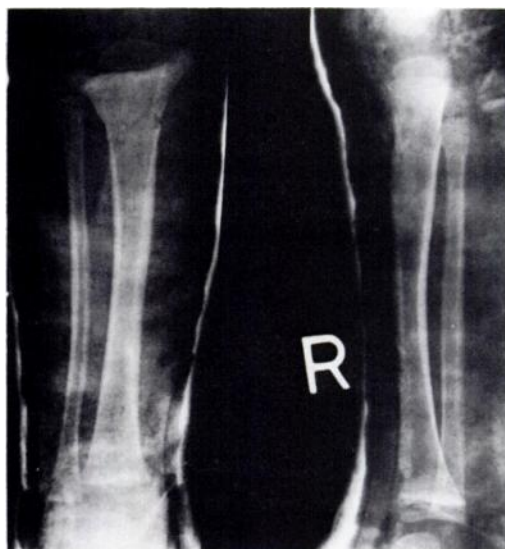


Fig. 1



Fig. 2

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