

# CORRECTION OF COMBINED TIBIAL TORSION AND VALGUS DEFORMITY OF THE FOOT

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Patients with spina bifida cystica commonly have significant disability from a combination of valgus deformity of the ankle and subtalar joints with lateral tibial torsion and plano-abduction deformity of the foot. These deformities can be corrected by a single procedure which combines a supramalleolar tibial osteotomy with a lateral inlay triple fusion. This procedure was carried out on 20 feet in 15 patients and the results were reviewed after an average of three years (range 18 months to 7 years). In 75 per cent of feet the combination of deformities was fully corrected, ulcers and callosities were eliminated in 95 per cent, the use of calipers minimised in 95 per cent, and in all patients the problem of shoe-wrecking was reduced. Complications included recurrent valgus deformity, delayed union of the tibial osteotomy and failure of midtarsal fusion.

Children with spina bifida cystica who are expected to walk require a foot posture such that their weight is distributed over a large area of the plantar surface. If this criterion is not met, then trophic ulceration will occur in the second decade of life.

Spina bifida patients who develop a valgus deformity of the hindfoot frequently have an associated lateral tibial torsion, an abduction deformity of the midtarsal joint and a planus deformity of the medial longitudinal arch. They therefore take the greater part of their weight along the medial border of the foot. This is shown by the pattern of wear of their shoes which become distorted and are quickly ruined. The pattern of weight distribution is indicated clinically by a medially placed callosity caused by excessive friction as these patients commonly do not lift their feet at each step but scrape them along the ground. Trophic ulceration often follows; moreover the deformity tends to be progressive so that the amount of valgus may become greater than that seen in any other disorder. Such deformity is difficult or impossible to control by calipers, which produce undue pressure on the skin; the forces on the calipers are so great that they frequently break. The procedure discussed in this paper aims at preventing these problems.

## THE DEFORMITY

The hindfoot is in valgus; this deformity is partly at the ankle and partly at the subtalar joint complex (Figs 1 and 2). Lateral tibial torsion complicates the ankle component of the deformity, a fact which is not always appreciated. The forefoot is flat and abducted (Fig. 3). The subtalar

component of the valgus deformity and the midtarsal component of the plano-abduction deformity are mobile and can be fully corrected passively. There is no concomitant equinus or calcaneus and the management



Fig. 1

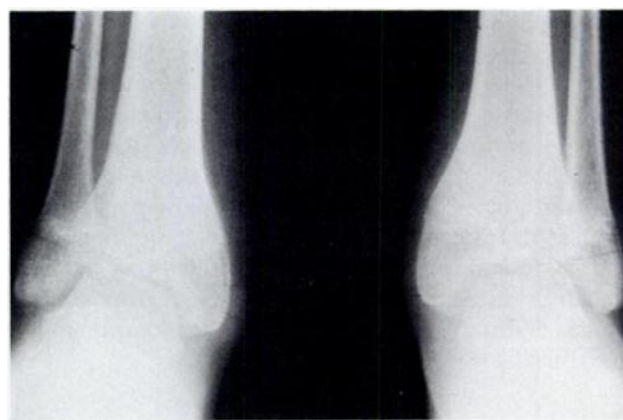


Fig. 2

Figure 1—Photograph showing the valgus deformity of the ankle and subtalar joints. The lateral tibial torsion associated with the valgus deformity is not shown. Figure 2—Anteroposterior radiographs of the same feet.

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