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REFERENCES

1. Goren, G. Personal communication, 2000.
2. Goren, G. *Vein Disorders Center: Ambulatory Phlebectomy. Physician's Patient Brochure Handout*, 1995.

REPLANTATION OF GREAT AND SECOND TOES: A WORTHWHILE EFFORT

Sir:

The replantation of digits in the upper extremity is a well-established procedure world-wide; however, the replantation of toes is still uncommon.

An 11-year-old boy suffered an injury to his left foot when a concrete slab fell from a height. This resulted in the amputation of his great and second toes (Fig. 1, *above, left*). The line of injury passed through the head of the first metatarsal and through the middle of the proximal phalanx of the second toe (Fig. 1, *above, right*). Both were attached by a thin strip of web skin. The stump and the amputated part were badly contaminated and required radical debridement. Post-debridement, on the proximal side, the plantar aspect of the first metatarsal was exposed, which required a flap cover. Hence, an attempt was made to replant the amputated part.

This would help cover the defect and, at the same time, give the best cosmetic result.

The amputated part was examined to see if the digital nerves and arteries could be secured. A good common plantar digital artery, plantar digital nerves, deep peroneal nerve branches, and two dorsal veins were identified. Skeletal fixation was achieved with Kirschner wires. All the previously identified structures and long flexor and extensor tendons were repaired. The total ischemia time was 6 hours. Both replanted toes survived. The Kirschner wires were removed at 4 weeks, and the child started walking with protection at 8 weeks. Full unprotected walking was allowed 2 weeks later.

When this case was reviewed 18 months after replantation, we discovered that the child was walking well, had no obvious deformity, and had good sensation in the toes and normal movements (Fig. 1, *below, right*). At home, he walks barefoot, and he takes part in all sporting activities at school. The child did not understand the 2-point discrimination measurement test, but he obviously has good sensation; he has not developed trophic changes or ulcers, despite walking barefoot.

The replantation of the foot or parts of the foot distal to the ankle is rare, because such injuries are usually crush injuries and the amputated parts are not suitable for replantation.¹ Many centers capable of doing digital replants are busy and try to rationalize which parts should be replanted and which do not need to be. Guidelines for the replantation of digits in the upper limb are well-established; however, in the lower limb, because of a paucity of reports, definite guidelines do not exist.

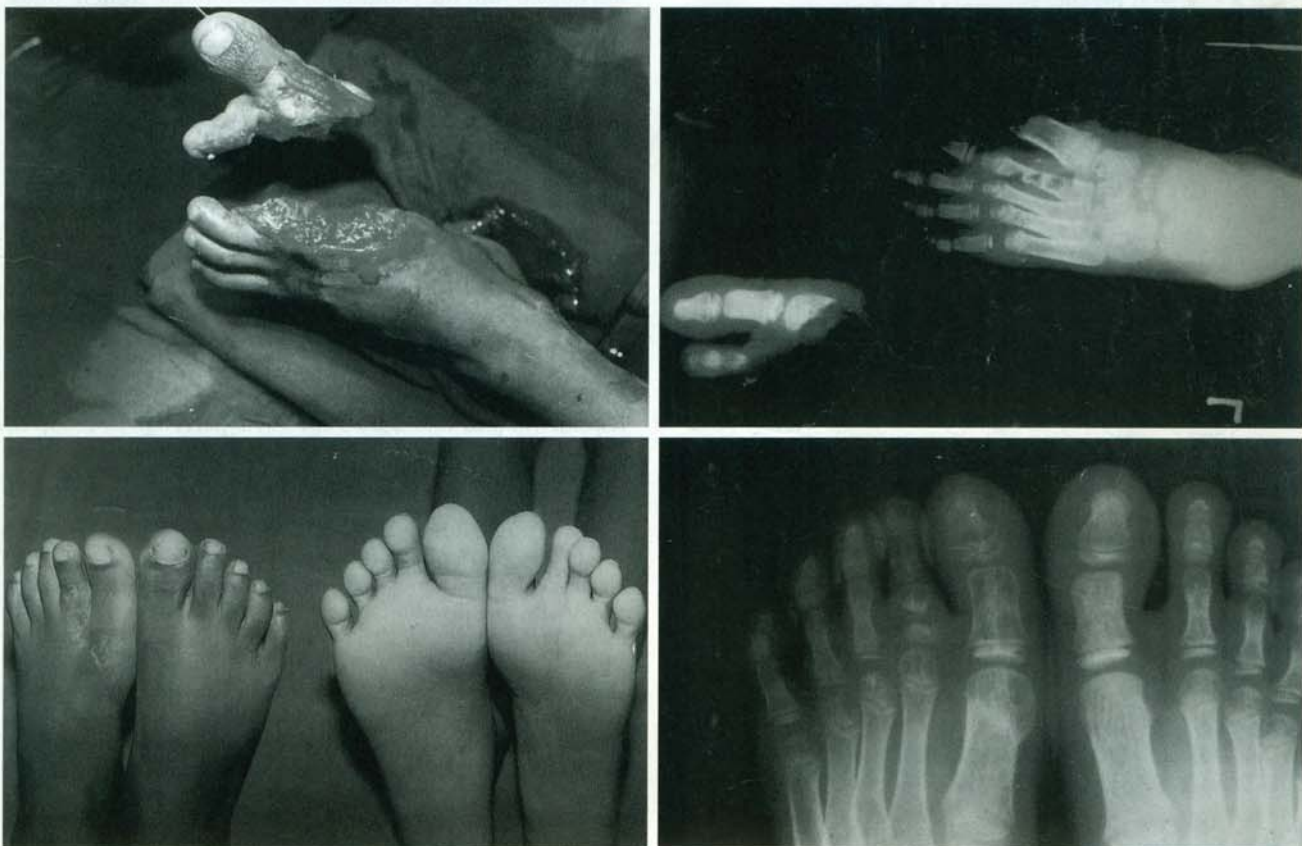


FIG. 1. (*Above, left*) Preoperative view showing the amputated great and second toes. (*Above, right*) Preoperative x-ray showing the level of amputation. (*Below, left*) Postoperative dorsal and plantar views at 18-month follow-up. (*Below, right*) Postoperative x-ray showing bony growth at 18 months.