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Jurgan Pin Ball fingertip pressure necrosis

Sir,

Kirschner wires are commonly used in bone and joint surgery of the hand. The ends of the wires are often left exposed to facilitate their later removal. It is recognised that the exposed wires pose some hazards to the patient and others. The exposed portion can also be inadvertently dislodged if it is knocked or snagged on clothes.

A number of ways have been proposed to protect the ends of the wires and to prevent migration.¹ One of the most elegant is the Jurgan Pin Ball (RFO Medical Company, London, UK), which consists of a series of colour-coded polymer balls that are attached to wires using an integral screw. The manufacturers recommend that the ball be slid down the Kirschner wire until it is just touching the skin. Once any excess wire is cut off, it is recommended that the ball be backed off the wire slightly.

We have become increasingly aware of the potential for fingertip necrosis to occur beneath the ball secondary to swelling and subsequent pressure (Fig. 1). The most significant example involved a 65-year-old male who underwent arthrodesis of his distal interphalangeal joint following destruction of the joint by a circular saw (Fig. 2(A)). On removal of his Kirschner wire, necrosis of the underlying pulp was noted. Over succeeding weeks, the phalangeal tuft became exposed and then infected (Fig. 2(B) and (C)). Conservative management failed, and debridement of a fragment of necrotic P3 tuft was required 4 months after injury, which eventually led to resolution of the infection and soft-tissue healing.

We have had further instances of this complication, even after following the manufacturer's guidelines. Whilst we have found the Pin Ball devices useful for protecting Kirschner wires, we would suggest that they be backed off the skin by at least 2 mm to allow for swelling and thereby prevent pressure necrosis.

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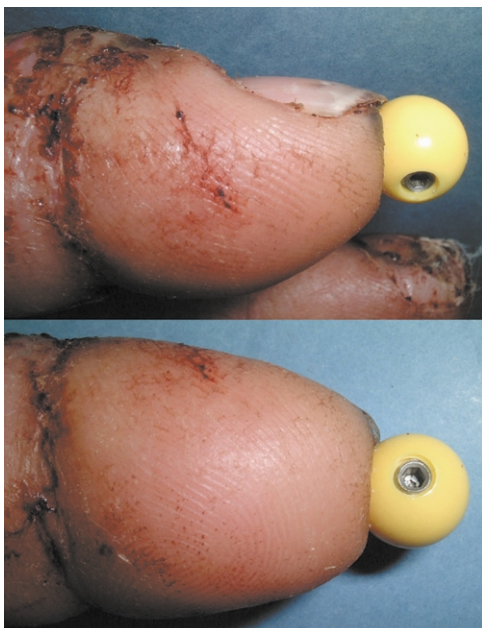


Figure 1—Jurgan Pin Ball exerting pressure on the fingertip pulp.

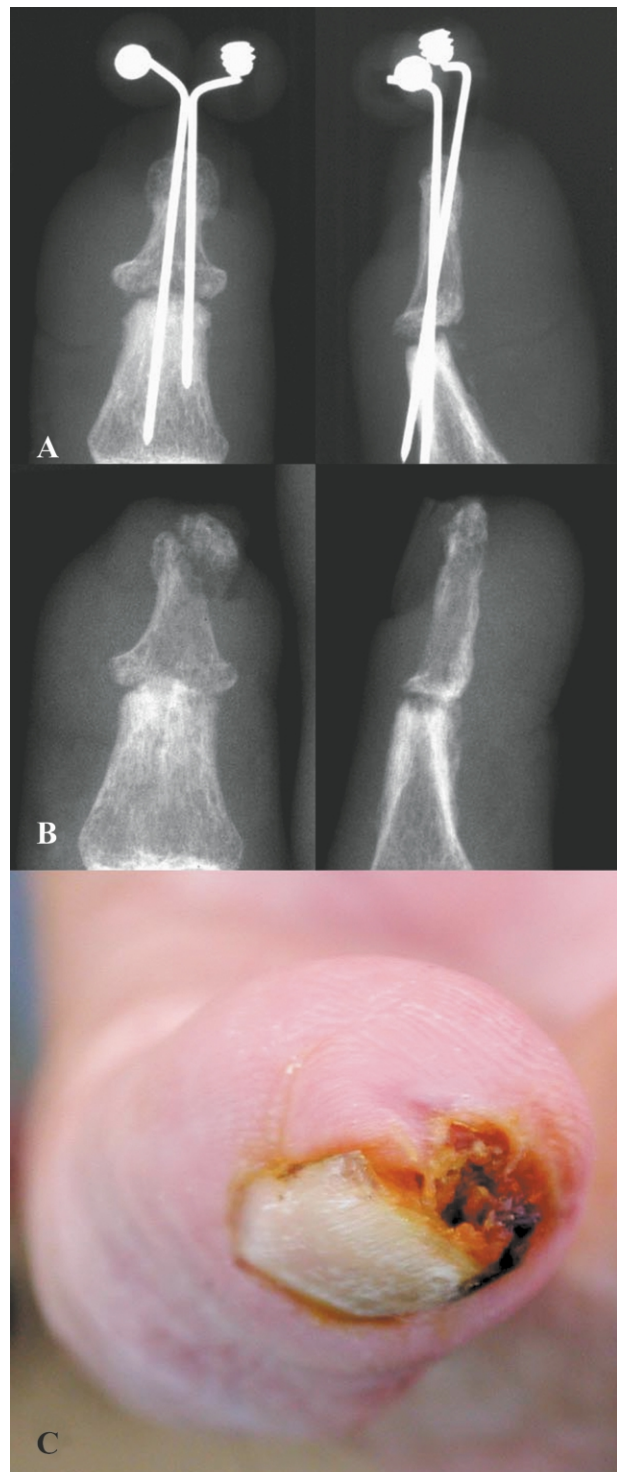


Figure 2—Radiographs showing (A) Kirschner wires and Jurgan Pin Balls in place soon after the injury, (B) osteomyelitis of the phalangeal tuft, and (C) Exposed phalangeal tuft.

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References

- Weinzweig J. In search of the perfect Kirschner wire cover. *Plast Reconstr Surg* 2002;109:2162–3.