References

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Tensioned fine wire for proximal femur traction table reduction in amputees

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Fractures of the neck of femur are associated with high morbidity and mortality, and are a common problem, particularly among the elderly population. Management can include open reduction and internal fixation using a traction table. Patients with above-the-knee amputations provide a technical challenge in terms of traction table positioning and fracture reduction. Current options include placing a Denham pin or a Steinmann pin with a diameter of 4–5mm through the distal femur to enable traction of the residual limb.

Figure 1 Photograph of tensioned fine wire in place and Ilizarov half ring to allow traction and rotational control. 58×78mm (220×220 DPI)

Figure 2 Ilizarov half ring attached to traction table via a traction cord. It allows a unimpeded lateral view of hip using an image intensifier. 88×66mm (220×220 DPI)

Technique

We propose using a tensioned fine wire 1.8mm in diameter and an Ilizarov half ring to enable skeletal traction of the proximal femoral fracture. The smaller diameter wire has a limited biological footprint and causes less damage to the soft tissues and bone than the wider Denham and Steinmann pins.

This technique can be especially useful in cases with a very short residual limb. A fine wire is passed through the distal femur and tensioned (110 Nm) to an Ilizarov half ring (Fig 1). The half ring can be used to provide traction as well as rotational control, and is attached to the routine traction table attachment using traction cord (Fig 2).

Discussion

The advantages to this simple technique are that both AP and lateral image intensifier images can be taken intraoperatively, as per a routine dynamic hip screw fixation, and it allows safe positioning for the patient, with satisfactory application of traction and rotational control. It also causes minimal injury to the bone and soft tissues.