DISCUSSION

Postoperative care of flap reconstructions to the heel is particularly challenging. Offloading the reconstructed area allows pressure relief, prevention of shear, immobilisation, ease of neurovascular monitoring and wound care. We remove the kickstand after three weeks and to date have not encountered any difficulties with dangling regimes with the frame on.

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Key steps in anatomical reduction for fibula nail insertion

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Figure 1 Supination external rotation fracture: anteroposterior and lateral plain radiographs of SER ankle fracture as described by the Lauge Hansen Classification showing a spiral oblique fracture of the fibula

BACKGROUND

Fibula nailing is a minimally invasive alternative to open reduction and internal fixation for lateral malleolar ankle fractures. We believe

Figure 2 Fracture reduction: reversing the deforming forces. The foot is held in an internally rotated and pronated position to facilitate guidewire insertion.

Figure 3 Canal preparation: reduction is held while drilling/reaming. The foot is still held in internal rotation and pronation while drilling the distal 4cm of the fibula.

Figure 5 Locking the fibula nail: the fibula nail is locked into place with one or two anteroposterior screws in the distal fragment and a lateral screw proximally. The aiming assembly should be in 20-30 degrees of external rotation for anatomical placement of the syndesmotic/lateral screw.

Figure 4 Fibula nail insertion: the fibula nail is inserted into a previously reduced fracture along with its aiming assembly

prior anatomical reduction – and maintaining this throughout the procedure – is key to correct insertion of the fibula nail rather than relying on the nail and targeting guide as is described commonly.¹

One can use the Lauge Hansen Classification to define and reverse the deforming forces prior to fibula nail insertion.² The commonest fracture is the supination external rotation injury (SER) which is associated with spiral oblique fractures of the fibula (Fig 1).

TECHNIQUE

The SER fracture is reduced by traction, internal rotation and pronation of the foot (Fig 2); reversing original forces and facilitating anatomical guidewire placement and subsequent fibula rod insertion. Reduction is maintained while drilling the distal 4cm of fibula as this sets the nail's insertional channel (Fig 3). Drilling/reaming can displace the distal fibula fragment. Hence, a K-wire or an assistant to reverse the supination and external rotation and maintain reduction while reaming is important.

The fibula nail is inserted (Fig 4) and locked into place with anteroposterior and lateral screws (Fig 5). Minor adjustments to the reduction can be achieved by locking the distal fragment and undertaking traction and/or internal/external rotation. These manoeuvres compromise anatomical placement of the syndesmosis/lateral screw. Therefore, it is ideal to have reduction prior to nail insertion.

DISCUSSION

Understanding fracture patterns and deforming forces in common ankle fractures (eg SER/pronation external rotation) prior to fibula nail insertion helps avoid malreduction, optimising nail stability.

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Safe pedicle tunnelling and retrieval for free flap surgery

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BACKGROUND

Free flaps are used to cover distant soft tissue defects. Sometimes this involves tunnelling of the pedicle. Passing the pedicle through a tunnel is a blind procedure, during which, trauma to the pedicle in the tunnel may occur, either from the contents in the tunnel or by instruments and sutures used to hold the pedicle. Kinking, shearing

and twisting of the pedicle may occur. The pedicle may even stick to the tunnel walls and retrieving it may cause further trauma to the vessels. Various techniques have been described for tunnelling using endotracheal tubes,¹ Penrose drains,² rubber catheters,³ and surgical gloves.⁴

TECHNIQUE

We describe an effective pedicle retrieval method using the Yankauer sucker (Pennine, Derby, UK). The flap pedicle, once divided, is transferred to the recipient site where a subcutaneous tunnel may have been necessary for the pedicle to pass for anastomosis to the donor vessels. The suction strength is minimised (10–20kPa mmHg)

Figure 1 The pedicle of the Medial Sural Artery Perforator (MSAP) flap is tunneled under a bridge of skin using the sucker tip and pulled through to the donor vessels for lower limb reconstruction

Figure 2 The pedicle of a radial forearm flap for orbital reconstruction is tunneled under the skin using the sucker tip (reversed for larger pedicle) to reach the superficial temporal vessels for anastomosis