Bone grafting of scaphoid non-unions: a simple distraction technique to optimise fracture exposure

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BACKGROUND

Scaphoid non-unions can be successfully treated with open reduction, bone grafting and internal fixation.^{1,2} It is vital that the fracture site is adequately prepared for receiving bone graft, ensuring that all remnants of fibrous healing are excised to expose a bleeding cancellous bone bed.³ To facilitate this, exposure requires mobilisation and distraction of the scaphoid poles. Traditionally, instruments such as lamina spreaders have been used to achieve this. Whilst effective, they have the disadvantage of obscuring much of the recipient graft bed and require frequent re-positioning. The use of temporary mini external fixators has been described with good results.⁴ We describe a simple and inexpensive method of distraction which allows excellent fracture visualisation and bone graft placement.

TECHNIQUE

A standard volar approach is used to expose the scaphoid non-union. Two Kirschner wires (1.25–1.5 mm) are inserted into the two scaphoid poles, parallel to each other and perpendicular to the axis of the scaphoid. The wires are trimmed and the distal wire is fashioned to produce a frame construct (Figs 1 and 2). Note that the length of the horizontal limb will determine the degree of distraction. It is useful to overdistract the scaphoid to facilitate graft insertion. The wires are removed once adequate preparation and grafting is achieved and internal fixation can proceed.

Figure 1 Insertion of K-wires into scaphoid.

Figure 2 Diagrammatic representation of K-wires inserted and fashioned to the distract scaphoid.

DISCUSSION

This technique utilises inexpensive materials and basic trauma surgery skills. The cost can be minimised by using a single, double-ended Kirschner wire cut in two. The surgeon can operate without second surgeon assistance, if necessary, and achieve optimal exposure at this crucial stage of scaphoid non-union surgery.

References

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An improvised delivery system for irrigation

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INTRODUCTION

Occasionally, urologists are asked to see patients requiring temporary bladder irrigation at hospitals without stocks of specialist irrigation apparatus. One option is to transfer the patient to a urology ward, but often there are outstanding medical issues predicating continued specialist input. Here, we describe an