Patient positioning for tension band wiring of olecranon fractures

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doi 10.1308/rcsann.2018.0142

BACKGROUND

Tension band wiring remains the most widespread method for olecranon fracture osteosynthesis.^{1,2} Obtaining optimal intraoperative image intensifier views is essential to prevent complications.³ The patient is positioned either lateral decubitus or supine with their elbow over a bolster on the chest/abdomen or prone,⁴ but pelvic, chest, spinal or abdominal injuries and obesity make this difficult. We describe a technique which overcomes this difficulty, and which can also be used in other tension band wiring.

TECHNIQUE

The patient is positioned supine with arm over an arm board and positioning of theatre staff and image intensifier (Fig 1). Under tourniquet, the shoulder is abducted and externally rotated to 90

Figure 2 (a) Patient positioning with elbow raised on kidney dish. (b) Insertion of parallel k-wires with fracture reduced.

Figure 1 Theatre layout, note positioning of the image intensifier allowing anteroposterior and lateral views to be easily obtained.

Figure 3 Preoperative anteroposterior and lateral radiograph showing fracture dislocation of the elbow in a patient with pelvic/chest and abdominal injury.

degrees. A kidney dish is placed beneath the elbow (Fig 2a), which enhances ease of drilling. The first wire is introduced at the tip of the olecranon ridge and directed medially to enter the anterior cortex. Reduction of the fracture and correct angulation of this wire in the lateral projection is easily assessed by image intensifier (Fig 3). The second wire is passed lateral to the first, using the parallel drill guide (Fig 2b). On extending the elbow the two k-wires become parallel to the arm and it is easy to get good anteroposterior and rotation views under image intensifier. Subsequent insertion of the tension band proceeds as normal.

DISCUSSION

Supine positioning with this technique provides a reproducible fixation method for isolated olecranon fractures as well as those in the patient with polytrauma.

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