Biplanar imaging for intramedullary nailing of tibia and femur

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BACKGROUND

Modern intramedullary nailing for long bone fractures relies on the use of fluoroscopic images obtained from an image intensifier in theatre. In order to confirm the positioning of the implant and fracture reduction, images in at least two planes are necessary. These are usually obtained by rotating the image intensifier C-arm through 90°. This technique is time consuming, difficult and risks contamination of the operative field.

TECHNIQUE

We recommend the use of two image intensifiers (a standard and a mini) to obtain biplanar images of the fracture and implant positioning. The image intensifiers can be set up as shown in Figure 1 (in this case, for insertion of a retrograde femoral intramedullary nail). This set-up allows the surgeon to have simultaneous anteroposterior and lateral images without moving the patient or equipment.

Figure 1 Using the standard and mini image intensifiers for insertion of a retrograde femoral intramedullary nail

DISCUSSION

Anecdotally, this technique saves time and prevents the need for re-positioning the patient. Furthermore, it exposes the patient and staff to less overall radiation due to fewer images being required and the substitution of radiographs taken on the mini image intensifier rather than the standard image intensifier. We have used this technique successfully for retrograde intramedullary nailing of the femur and intramedullary nailing of the tibia.

The poke test in lower limb fasciotomy

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COMMENT ON

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We read with interest the paper by Pallister *et al.* Fasciotomies can be performed badly by trainees. In a survey, only 47% of plastic surgery trainees and 10% of orthopaedic surgery trainees marked the correct incisions.¹ Furthermore, few trainees are exposed to enough fasciotomies during their training. The National Confidential Enquiry into Patient Outcome and Death identified that patients are more likely to receive better care in a hospital that receives a high volume of cases and that only 35% of severely injured patients had a consultant involved in the initial care, even though patients are also more likely to receive a better standard of care if a consultant is involved in the initial response.²

Revision fasciotomies are associated with a fourfold increase in mortality.³ Considering the devastating effects of poorly performed fasciotomies and the lack of adequate training, we feel it is better to concentrate efforts on teaching a standard method as described in the British Association of Plastic, Reconstructive and Aesthetic Surgeons/British Orthopaedic Association standards.⁴ Our concern with the poke test is that it might give a false sense of security and damage perforators by blind dissection. Perhaps there is a need for a national cadaver course on fasciotomies to ensure adequate training in a standard safe method.

References

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